isopad

IT-ITW/SS

D100 0AT0 011A

1. HEATING CABLES AND TAPES

PTFE insulated heating tape

Isopad IT-ITW/SS preterminated resistance heating tape is specially designed for application in temperatures up to 200°C. The temperature depends on the power and usage. Please make sure that the heating tape does not exceed the maximum withstand temperature.

These highly flexible tapes can be easily coiled around pipelines and valves, supports, pumps, flanges, filters, gauges, or other devices of irregular shape. The resistance element forms a closed heating circuit with connection joints only at one tape end.

Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP64
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C

Standard Manufacturing Sizes	
Width	7 mm ±10%
Thickness	3 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE / glass-silk
Material of outer sheath	Stainless steel braid

Lead Connection	
Connection dimension (L x W x H)	60 x 30 x 15 mm
Connection length	1.5 m
Cross section	3 x 1.5 mm
Maximum operating temperature	180°C
Insulation material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	Approximately 35 W/m
Maximum operating temperature	260°C

HS8587 02/11

HS8594 11/10

HS8596 11/10

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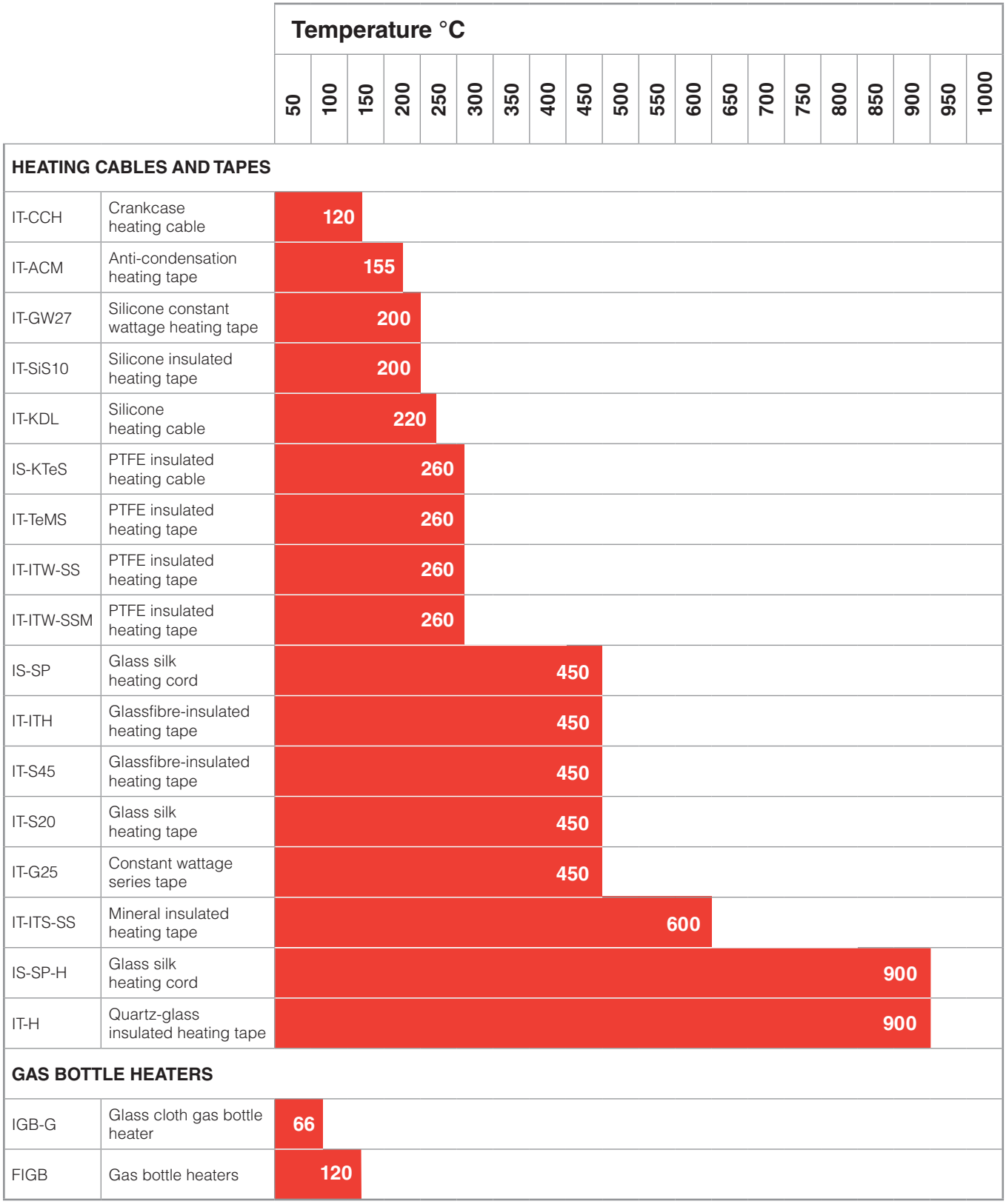
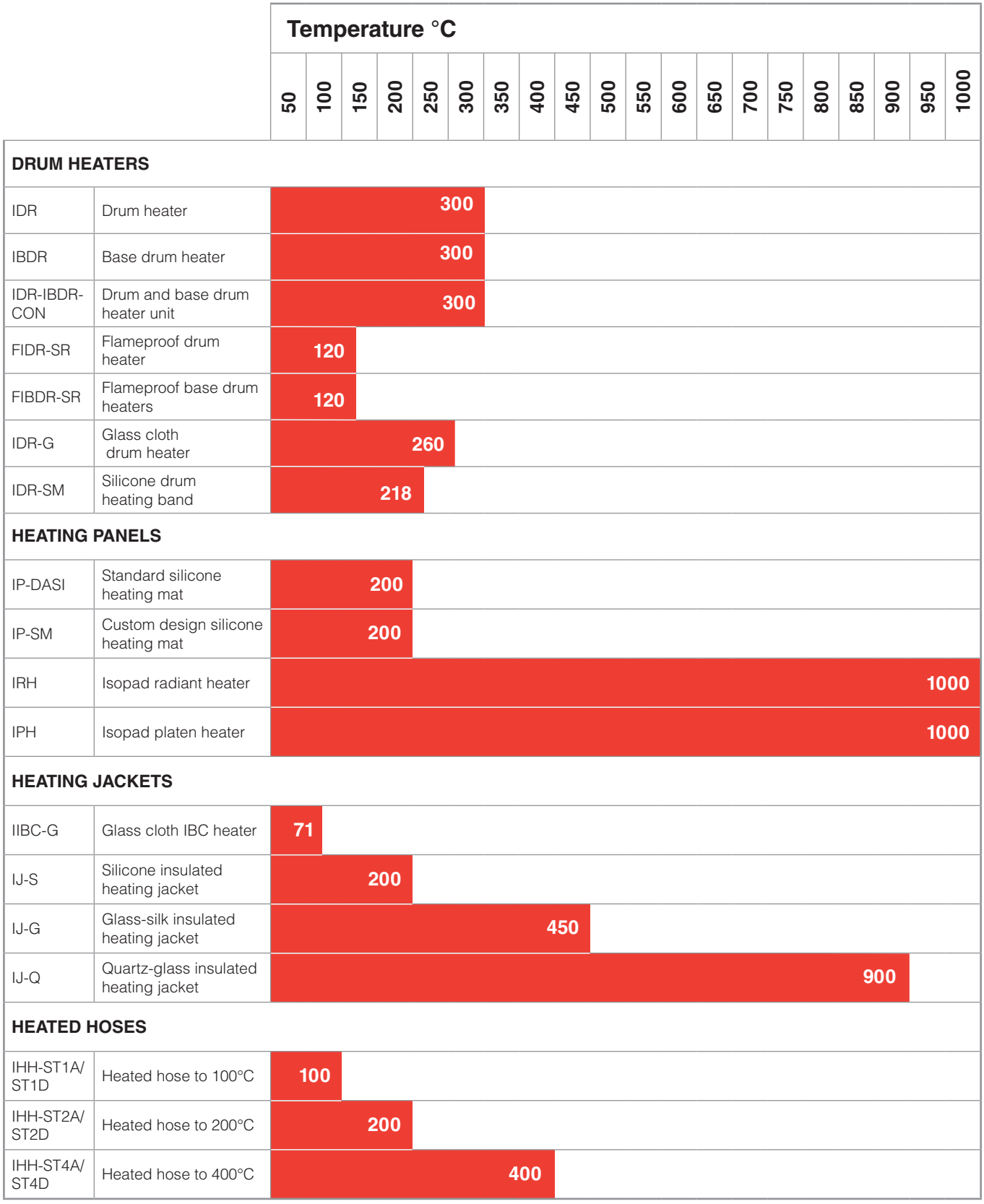
Datasheets >>>

Standard Product Datasheet Index





The datasheets here show our standard range of products. Use the table below to help select the right product. In the electronic version, click the item to go to the relevant datasheet. Our engineers have good capabilities to generate new electric heating solutions, so if what you need is not here, email isopad.info@thermocoax.com with your requirements.

THERMOCOAX
from vision to reality

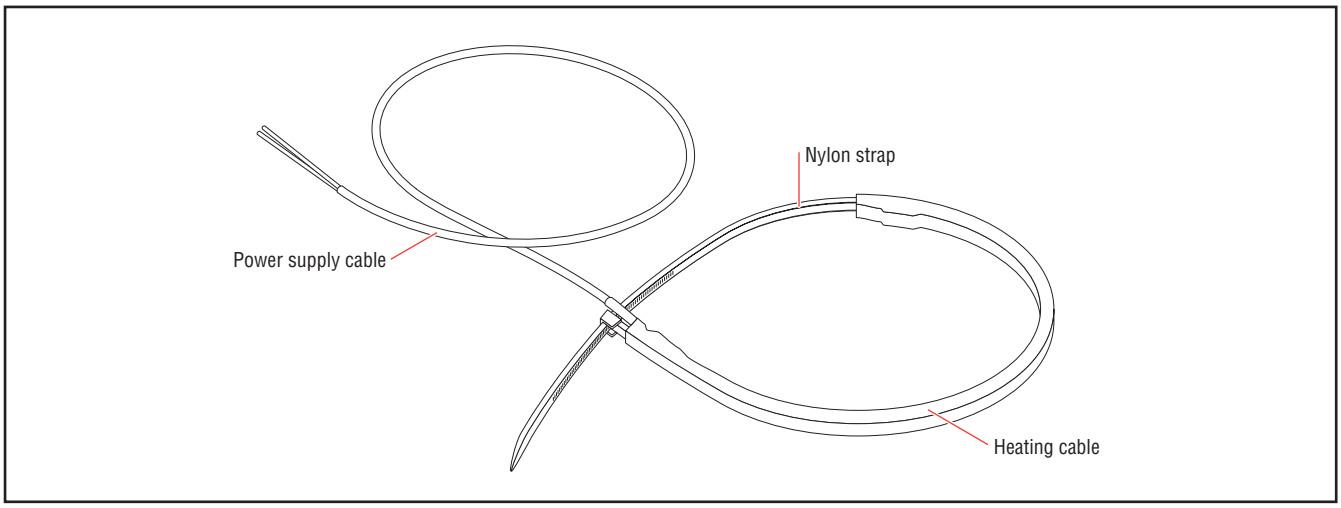
Important: *All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. THERMOCOAX makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. THERMOCOAX's only obligations are those in the THERMOCOAX Standard Terms and Conditions of Sale for this product, and in no case will THERMOCOAX or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, THERMOCOAX reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.*

IT-CCH

D100
0AT0
011A

Crankcase heating cable

Isopad IT-CCH crankcase heating cables are designed to prevent motor damage and maintain efficiency by minimizing refrigerant gas absorption into the compressor oil. Their self-regulating properties ensure energy-efficient heating, with no requirement for thermostat control and no risk of overheating. Crankcase heating cables are constructed with a high-powered self-regulating core, double insulated and attached to a flexible nylon-locking strap. It is a nonmetallic product that will not suffer from corrosion and is most effective in the prevention of moisture and condensation ingress. The thin narrow profile gives flexibility for the heating cables to be fitted to a wide range of compressor shapes and sizes.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP54
Electrical protection class	See note
Maximum withstand temperature (power off)	120°C
Minimum installation temperature	–30°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Heated length	400 / 600 mm ±10%
Adjustable length	450 to 730 / 650 to 960 mm
Overall length	770 / 1000 mm

Heater Construction	
Type	Self-regulating heating cable
Material	Self-regulating heating element
Material of insulation	Fluoropolymer
Material of outer sheath	Polyethylene

Lead Connection	
Connection length	1.0 m
Maximum operating temperature	80°C
Insulation material	PVC

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	240 Vac
Nominal power	24 / 36 W
Maximum operating temperature	120°C

Ordering Information

Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)
931302-000	0.4	24	240
504756-000	0.6	36	240

[1] Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

[2] Tolerances ±10%

IT-ACM

Anti-condensation heating tape

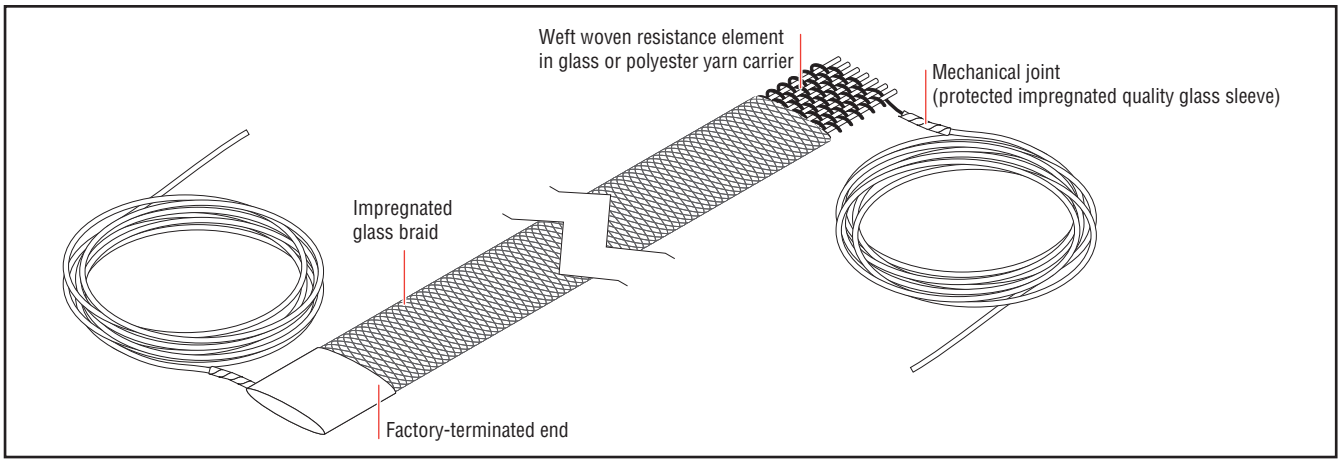
Isopad IT-ACM heating tape is specifically designed in conjunction with major motor manufacturers to prevent condensation within rotating electrical equipment, such as electric motors, generators, and even large shipboard alternators. The tapes are particularly useful on motors which operate in damp or wet conditions. They offer a low-cost, easily installed solution which can save the expense of costly rewinds and plant downtime.

The product line covers motor heating tapes for operation on 230 V, 115 V and 48 V, with lengths from 200 mm up to 1702 mm.

ACMs are factory-terminated heating tapes having a resistance element which is woven into a glass or polyester yarn carrier. The element/carrier assembly is sheathed in an acrylic adhesive-backed polyester-film-laminated glass-fibre tape.

The tape is terminated with cold leads and a glass-fibre braid outer sheath completes the assembly.

The appropriate ACM heating tape is fitted around the end of the motor windings and held in position using narrow gauge tape fixings (not cords). Normally, one ACM heating tape is installed to each of the stator windings.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP54
Electrical protection class	See note
Maximum withstand temperature (power off)	155°C
Minimum operating temperature	10°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Width	16 mm ±10%
Thickness	2 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Weft woven various alloys in glass or polyester yarn carrier
Material of insulation	Acrylic adhesive backed, polyester-film laminated glass-fibre tape
Material of outer sheath	Impregnated woven glass-silk

Lead Connection	
Connection length	Terminated at each end with a 0.45 m cold lead

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	220 / 110 Vac
Maximum operating temperature	155°C
Minimum bend radius	30 mm
Minimum spacing	5 mm

Ordering Information

Nominal voltage	Part number	Length[1] (mm)	Standard motor frame size	Nominal power[2] (W)	Power per meter (W/m)
220 V	347164-000	305	90	25	81.9
	337962-000	432	100	26	60.2
	646924-000	686	112	21	30.6
	215434-000	686	132 + 160	40	58.3
	236126-000	762	180 + 200	26	34.1
	965682-000	1016	225 + 250	42	41.3
	113658-000	1067	280	54	50.6
	418282-000	1473	280	65	44.1
	644568-000	1702	315	99	58.2
110 V	422416-000	305	90	22	72.1
	754738-000	432	100	27	62.5
	122040-000	686	112	21	30.6
	120298-000	686	132 + 160	40	58.3
	513882-000	762	180 + 200	25	32.8
	440108-000	1016	225 + 250	39	38.4
	061654-000	1067	280	50	46.9
	899918-000	1473	280	67	45.5
	586352-000	1702	315	103	60.5

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

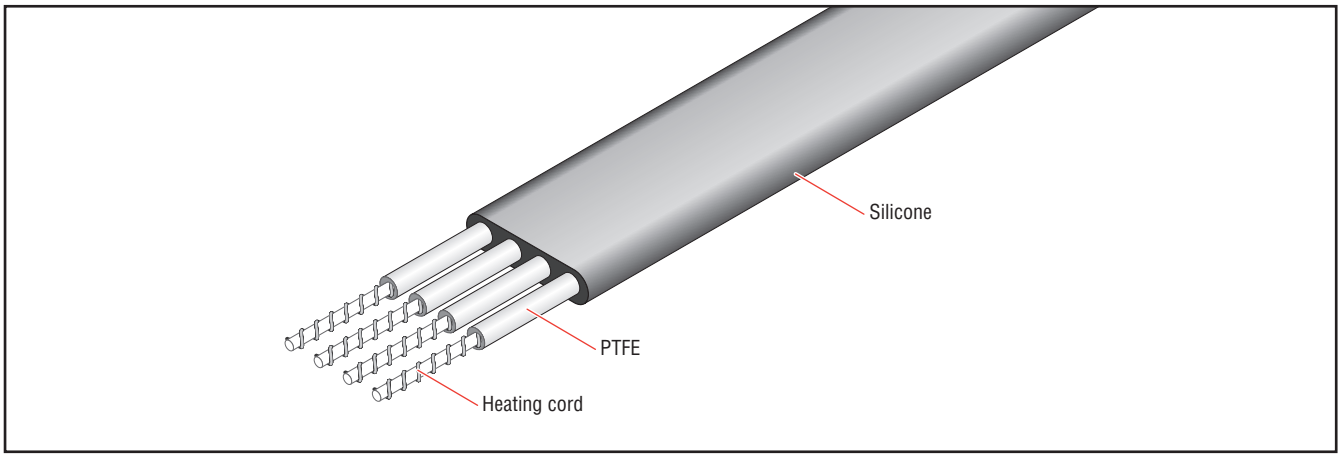
IT-GW27

Silicone constant wattage heating tape

Isopad IT-GW 27 is a factory-terminated heating tape constructed from a PTFE electrical insulated resistant wire extruded in silicone rubber.

The construction means it is suitable for use in wet environments. The outer jacket is smooth and may be washed down for cleaning, which also makes it suitable for use in dirty areas.

The IT-GW27 must be used with an appropriate temperature control. We also offer suitable controllers and sensors for your application.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP67
Electrical protection class	Class II
Maximum withstand temperature (power off)	200°C
Storage temperature	+5 to +30°C
Minimum installation temperature	–60°C

Standard Manufacturing Sizes	
Width	27 mm ±10%
Thickness	5 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE
Material of outer sheath	Silicone

Lead Connection	
Connection length	1.0 m
Cross section	2 x 1.5 mm²
Maximum operating temperature	180°C
Insulation material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	230 Vac

Technical Data

Power per meter	Up to 150 W/m (depending on application)
Maximum operating temperature	200°C
Minimum bend radius	25 mm
Minimum spacing	5 mm

Ordering Information

Type	Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)
IT-GW27	1235-88303562	3.6	551	230
	1235-88303563	4.0	270	230
	1235-88303564	5.4	733	230
	1235-88303565	6.0	330	230
	1235-88303566	8.0	367	230
	1235-88303567	9.0	864	230
	1235-88303568	10.0	588	230
	1235-88303569	12.0	1320	230
	1235-88303570	15.0	1567	230

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

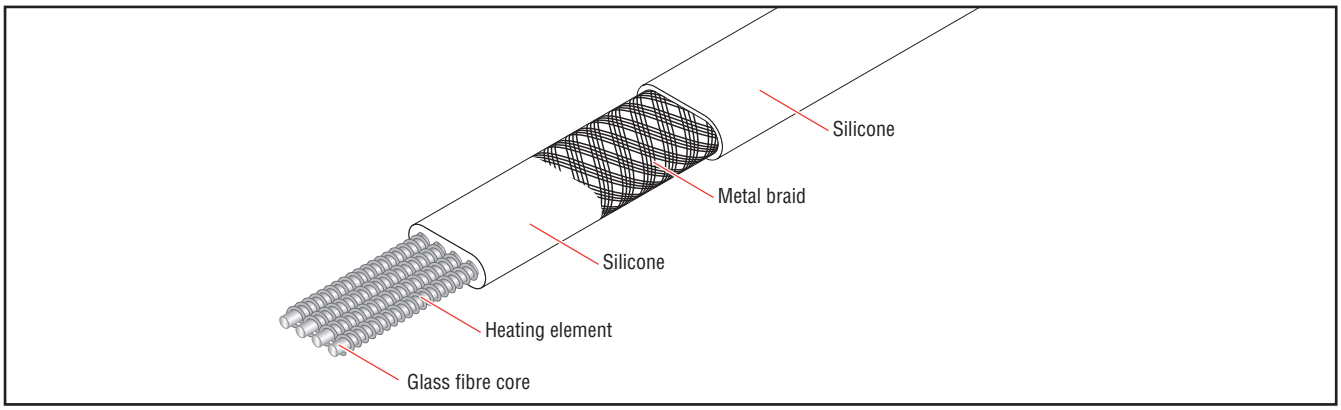
(2) Tolerances ±10%

Special versions on request

Silicone insulated heating tape

Isopad IT-SiS10 is a preterminated, flexible, and waterproof silicone insulated heating tape of the highest quality. It is manufactured according to the latest safety-technology regulations. Four silicone insulated heating conductors are embedded in a protective overbraid made of cupro-nickel. The temperature depends on the power and application. Please make sure that the heating tape does not exceed the maximum withstand temperature.

The outer jacket is smooth and may be washed down for cleaning.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP67
Electrical protection class	Class I
Maximum withstand temperature (power off)	200°C
Storage temperature	–20°C to +55°C
Minimum installation temperature	–20°C

Standard Manufacturing Sizes	
Width	11 mm ±10%
Thickness	5 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Silicone
Material of outer sheath	Silicone

Lead Connection	
Connection length	1.5 m
Cross section	3 x 1.5 mm^2
Maximum operating temperature	200°C
Insulation material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	230 Vac

Technical Data

Power per meter	100 W/m
Maximum operating temperature	200°C
Minimum bend radius	15 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length[1] (m)	Nominal Power[2] (W)	Nominal Voltage (Vac)
Outer lengths and power specifications, etc., available upon request	115096-000	1.0	100	230
	328552-000	1.5	150	230
	162874-000	2.0	200	230
	021826-000	3.0	300	230
	910894-000	5.0	500	230
	612242-000	7.0	700	230
	716918-000	10.0	1000	230

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

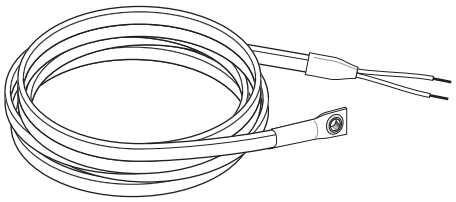
IT-KDL

Silicone heating cable

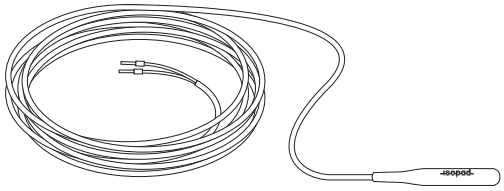
Isopad IT-KDL heating cables are specifically designed for internal and external heating of refrigeration drainlines and freezer doors. KDLs are constructed from silicone rubber, making them water resistant, and are supplied factory terminated in standard lengths. IT-KDL-SRs are specially produced in a small round form, making them very flexible and ideal for small bore drainlines.

Flexible SL and SR versions are standard; SLS and SRS variants are constructed with a steel braiding.

IT-KDL-SL



IT-KDL-SR



Area Specifications

	IT-KDL-SL	IT-KDL-SR
Area classification	Nonhazardous, ordinary area	Nonhazardous, ordinary area
Ingress protection	IP67	IP67
Electrical protection class	Class II	See note
Maximum withstand temperature (power off)	220°C	200°C
Minimum installation temperature	–50°C	–40°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company - please refer to the manual for further information.

Standard Manufacturing Sizes

	IT-KDL-SL	IT-KDL-SR
Width	9.5 mm ±10%	-
Thickness	6.25 mm ±10%	-
Outer diameters	-	5 mm ±10% (7.5 mm ±10% over moulded end)

Heater Construction

Type	Resistance heating cable
Material	Various alloys
Material of insulation	Silicone
Material of outer sheath	Silicone

Technical Data

	IT-KDL-SL	IT-KDL-SR
Frequency	50-60 Hz	50-60 Hz
Nominal operating voltage	230 Vac	230 Vac
Power per meter	40 W/m	40 W/m
Maximum operating temperature	220°C	200°C
Minimum bend radius	20 mm	5 mm
Minimum spacing	10 mm	10 mm

Ordering Information

	Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)
IT-KDL-SL	281332-000	1	40	230
	643140-000	2	80	230
	421844-000	3	120	230
	311936-000	4	160	230
	159372-000	5	200	230
	778676-000	6	240	230
IT-KDL-SR	057068-000	1	40	230
	456554-000	2	80	230
	998142-000	3	120	230
	863032-000	4	160	230
	148900-000	5	200	230
	361534-000	6	240	230

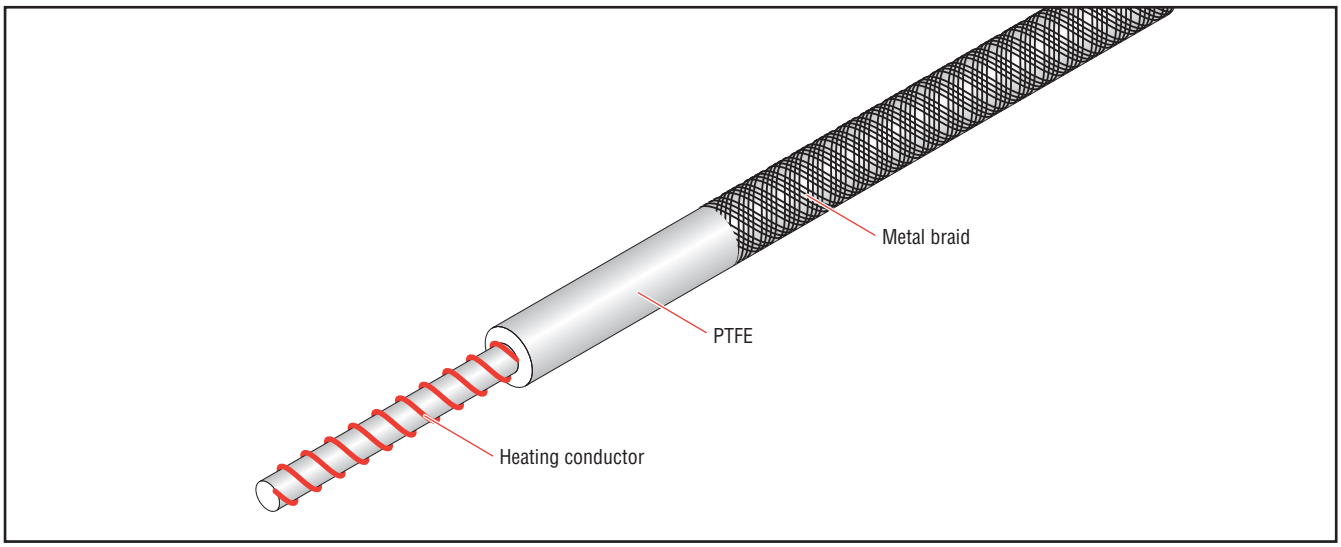
(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

PTFE insulated heating cable

Isopad IS-KTeS is a preterminated PTFE insulated heating cable suitable for use where no excessive mechanical loads are expected and moisture may be present.

This flexible and easily installed cable provides inexpensive and versatile heating. Applications include heat tracing of pipes, small containers, tools, machines, extremely thin and short pipes, and machine parts with limited mounting space.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP65
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C
Maximum withstand temperature (power on)	Depends upon power

Standard Manufacturing Sizes	
Outer diameter (OD)	2.5 to 3.5 mm

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE
Material of outer sheath	Copper-nickel braid

Lead Connection	
Connection length	Terminated at each end with a 1.5 m cold lead
Cross section	1.0 mm^2
Maximum operating temperature	260°C
Insulation material	PTFE

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	20 W/m
Maximum operating temperature	260°C
Minimum bend radius	10 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length[1] (m)	Nominal Power[2] (W)	Nominal Voltage (Vac)
Other lengths and power specifications, etc., available upon request	680108-000	2.20	50	230
	970664-000	4.40	100	230
	414978-000	7.00	140	230
	869130-000	11.00	250	230
	037962-000	16.00	330	230
	927424-000	22.00	500	230
	073216-000	28.00	630	230
	206840-000	40.00	920	230
	736072-000	58.00	1300	230
	380470-000	80.00	1740	230
	480964-000	112.00	2360	230
	335974-000	156.00	3120	230

(1) Tolerances ± (2% + 100 mm)
(2) Tolerances ±10%

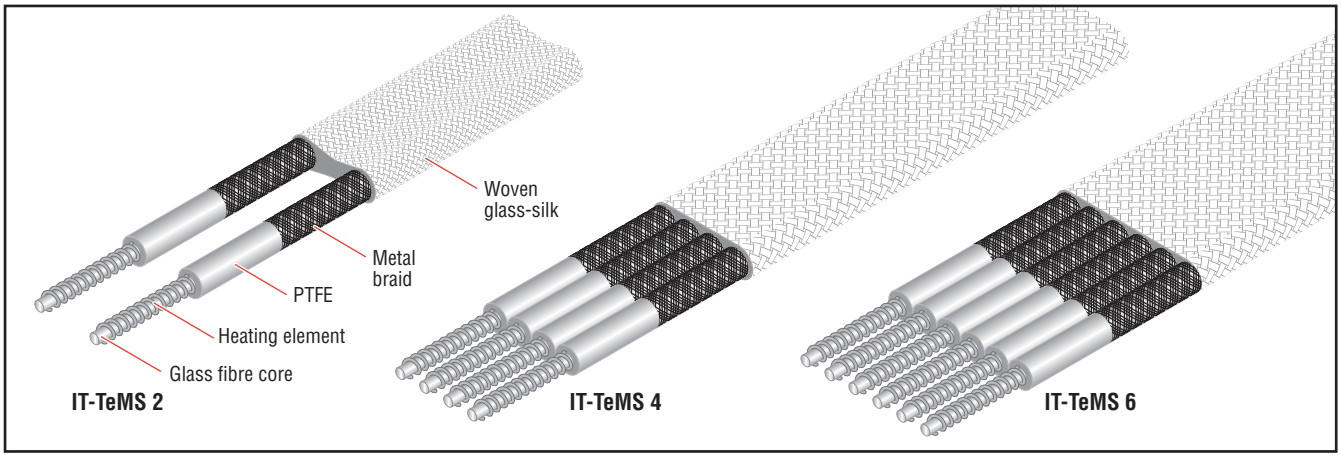
IT-TeMS

PTFE insulated heating tape

Isopad IT-TeMS is a preterminated and flexible heating tape. IT-TeMS 2 is used in applications ranging from simple frost protection to temperature maintenance on short pipework and apparatus as well as for general container heating applications.

If more power is required, the use of the TeMS 4 or TeMS 6 heating tapes is recommended. The parallel arrangement of the heating conductors ensures a wide heat-transfer surface.

The temperature depends on the power and application. Please make sure that the heating tape does not exceed the maximum withstand temperature.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP64
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C

Standard Manufacturing Sizes	
Width	IT-TeMS 2 is 25 mm, IT-TeMS 4 is 26 mm, IT-TeMS 6 is 27 mm ±10%
Thickness	4 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material insulation	PTFE
Material of outer sheath	Woven glass-silk

Lead Connection	
Connection length	1.5 m
Cross section	3 x 1.5 mm^2
Maximum operating temperature	180°C
Insulation material	Silicone

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Maximum operating temperature	260°C
Minimum bend radius	10 mm
Minimum spacing	5 mm

Ordering Information

IT-TeMS 2	Part number	Length[1] (m)	Nominal Power[2] (W)	Nominal Voltage (Vac)
	584 216-000	1.10	50	230
	411 376-000	2.20	100	230
	067 444-000	3.50	140	230
Other lengths and power specifications, etc., available upon request	846 778-000	5.50	250	230
	700 890-000	8.00	340	230
	426 148-000	11.00	500	230
	943 982-000	14.00	610	230
	852 336-000	18.00	730	230
IT-TeMS 4	458 786-000	1.10	100	230
	149 158-000	2.20	200	230
	802 292-000	3.50	280	230
Other lengths and power specifications, etc., available upon request	124 922-000	5.50	490	230
	299 284-000	8.00	670	230
	718 760-000	11.00	990	230
	927 204-000	14.00	1260	230
IT-TeMS 6	755 718-000	1.00	160	230
	533 964-000	2.00	330	230
Other lengths and power specifications, etc., available upon request	184 778-000	3.00	490	230
	824 016-000	5.00	820	230
	064 196-000	7.00	1150	230
	744 968-000	10.00	1640	230

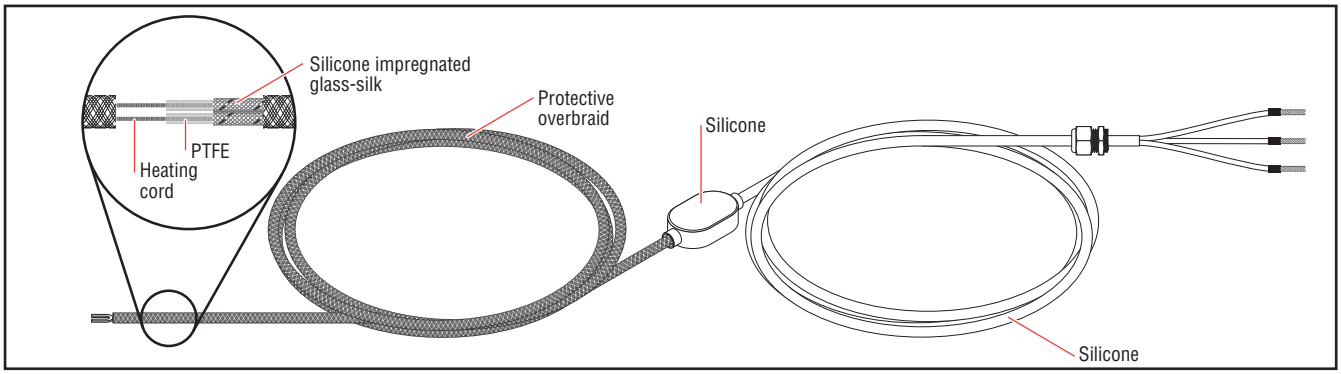
(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

PTFE insulated heating tape

Isopad IT-ITW/SS preterminated resistance heating tape is specially designed for application in temperatures up to 200°C. The temperature depends on the power and usage. Please make sure that the heating tape does not exceed the maximum withstand temperature.

These highly flexible tapes can be easily coiled around pipelines and valves, supports, pumps, flanges, filters, gauges, or other devices of irregular shape. The resistance element forms a closed heating circuit with connection joints only at one tape end.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP64
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C

Standard Manufacturing Sizes	
Width	7 mm ±10%
Thickness	3 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE / glass-silk
Material of outer sheath	Stainless steel braid

Lead Connection	
Connection dimension (L x W x H)	60 x 30 x 15 mm
Connection length	1.5 m
Cross section	3 x 1.5 mm
Maximum operating temperature	180°C
Insulation material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	Approximately 35 W/m
Maximum operating temperature	260°C

Technical Data

Minimum bend radius	7.5 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)	Power per meter (W/m)
Other lengths and power specifications, etc., available upon request	293448-000	2.0	80	230	40
	130782-000	3.0	110	230	36.7
	539544-000	4.0	130	230	32.5
	944136-000	5.0	170	230	34
	691860-000	8.0	280	230	35
	060142-000	10.0	370	230	37
	955206-000	14.0	480	230	34.3
	429780-000	18.0	590	230	32.8
	301866-000	20.0	750	230	37.5
	021558-000	25.0	840	230	33.6

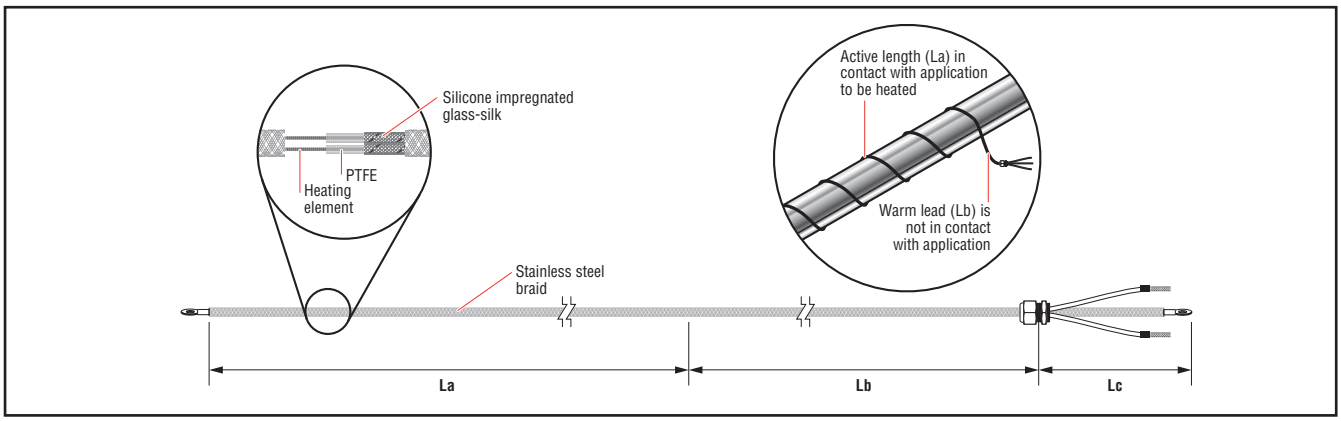
(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

IT-ITW/SS-M

PTFE insulated heating tape

Isopad IT-ITW/SS-M is a factory-terminated heating tape having a go-and-return series-resistance heating element insulated with a PTFE sheath covered with a stainless-steel braid complete with M20 gland.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP64
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C
Minimum installation temperature	–70°C

Standard Manufacturing Sizes	
Width	8 mm ±10%
Thickness	3 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE / silicone impregnated glass-silk
Material of outer sheath	Stainless steel braid

Lead Connection	
Warm lead (Lb) pipe to gland	Short or long warm lead, for length see Ordering Information
Glands	Brass M20
Tails (Lc) gland to crimp pins	Warm tail 150 mm long Conductors insulation with PTFE and glass braid Separate braided earth lead

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	240 / 110 Vac
Power per meter	33 / 44 / 55 W/m

Technical Data

Maximum operating temperature	170°C at 33 W/m 140°C at 44 W/m 110°C at 55 W/m
Minimum bend radius	7.5 mm
Minimum spacing	10 mm

Ordering Information

Output		**33 W/m**			**44 W/m**			**55 W/m**	
Maximum pipe temperature (power on)		**170°C**			**140°C**			**110°C**	
Voltage	**Part number**	**Active length (La)(1) (m)**	**Nominal power(2) (W)**	**Part number**	**Active length (La)(1) (m)**	**Nominal power(2) (W)**	**Part number**	**Active length (La)(1) (m)**	**Nominal power(2) (W)**
240 V	847952-000	1.4	55	002178-000	1.2	65	557710-000	1.0	76
	589014-000	2.7	96	718330-000	2.3	113	850242-000	2.0	128
Short lead Lb = 150 mm	982248-000	4.0	134	204374-000	3.5	161	682904-000	3.0	179
	597582-000	5.0	185	335040-000	4.4	208	531646-000	4.0	230
	968558-000	6.5	212	107772-000	5.5	253	106750-000	5.0	280
	501660-000	8.0	267	448548-000	6.9	314	903780-000	6.0	360
	816604-000	10.0	323	148750-000	8.3	387	544222-000	7.5	430
Long lead Lb = 350 mm	841870-000	11.0	377	856882-000	9.4	435	716584-000	8.5	480
	296864-000	12.0	425	955144-000	10.5	484	043498-000	9.5	535
	–	–	–	–	–	–	315 700-000	10.85	556
110 V	633594-000	1.4	44	929724-000	1.2	50	740004-000	1.0	58
	606686-000	2.7	81	209176-000	3.5	122	775996-000	2.0	105
	388864-000	5.0	167	398898-000	4.4	188	574268-000	3.0	141
Short lead Lb = 150 mm	334416-000	6.5	193	923494-000	6.9	256	270328-000	4.0	254
	756106-000	8.0	222	–	–	–	540440-000	5.0	242
	–	–	–	–	–	–	351888-000	6.0	293
	856262-000	10.0	280	–	–	–	483726-000	7.5	367
Long lead Lb = 350 mm	–	–	–	–	–	–	443400-000	8.5	448
	–	–	–	–	–	–	357032-000	10.5	564

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

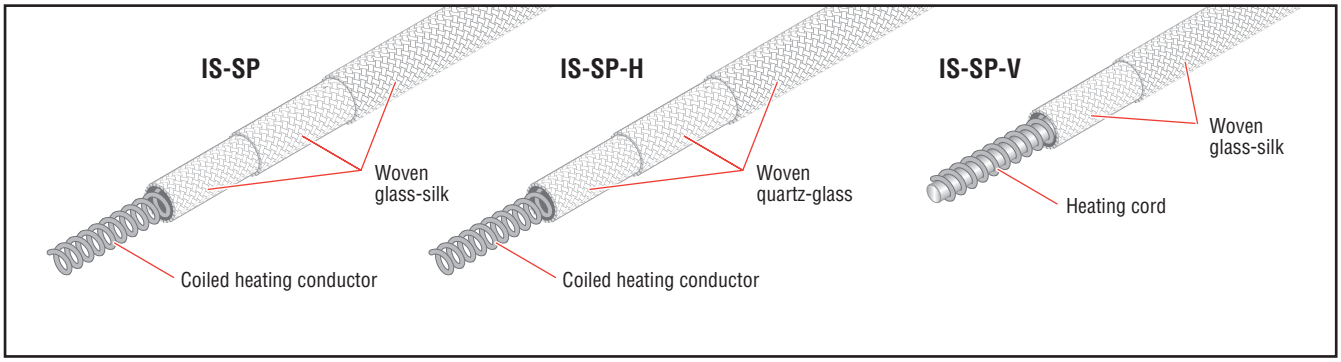
Glass silk heating cord

Isopad IS-SP is a preterminated, very flexible heating cord consisting of a glass silk insulated, flexible fabric weave with interior heating conductors. IS-SP-H is a higher temperature variant and SP-V is made with a central core to the spiral heating element.

The temperature depends on the power and application. Please make sure that the heating cord does not exceed the maximum withstand temperature.

Owing to its small dimensions, the heating cord is used for heating up and compensating for heat loss on short pipes, glass apparatus, or other structures, mainly for laboratory requirements.

The heating cord is not moisture-protected and must only be used in dry areas.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	See note
Maximum withstand temperature (power off)	450°C for IS-SP and IS-SP-V, 900°C for IS-SP-H
Storage temperature	–40 to +50°C
Minimum installation temperature	–40°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Outer diameter (OD)	Maximum 6 mm

Heater Construction	
Type	Resistance heating cable
Material	Nickel-chrome-alloy
Material of insulation	Glass-silk for IS-SP and IS-SP-V, quartz-glass for IS-SP-H
Material of outer sheath	Woven glass-silk for IS-SP and IS-SP-V, woven quartz-glass for IS-SP-H

Lead Connection	
Connection length	Terminated at each end with a 1.5 m cold lead
Cross section	1.0 mm^2 for IS-SP and IS-SP-V, 1.5 mm^2 for IS-SP-H
Maximum operating temperature	200°C for IS-SP and IS-SP-V, 450°C for IS-SP-H
Insulation material	Silicone-glass-silk for IS-SP and IS-SP-V, glass-silk for IS-SP-H

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	170 W/m for IS-SP and IS-SP-V, 450 W/m for IS-SP-H depending on the application
Maximum operating temperature	450°C for IS-SP and IS-SP-V, 900°C for IS-SP-H
Minimum bend radius	5 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length[1] (m)	Nominal Power[2] (W)	Nominal Voltage (Vac)
These part numbers are for IS-SP only. IS-SP-V and IS-SP-H variants, other lengths and power specifications, etc., available upon request	175192-000	0.5	50	230
	209402-000	1.0	160	230
	490504-000	1.5	220	230
	030246-000	2.0	330	230
	217452-000	2.5	380	230
	920078-000	3.0	490	230
	610730-000	4.0	600	230
	927312-000	5.0	710	230
	514784-000	6.0	820	230

(1) Tolerances <2.0 m ± (1% + 50 mm)
>2.0 m ± (2% + 100 mm)

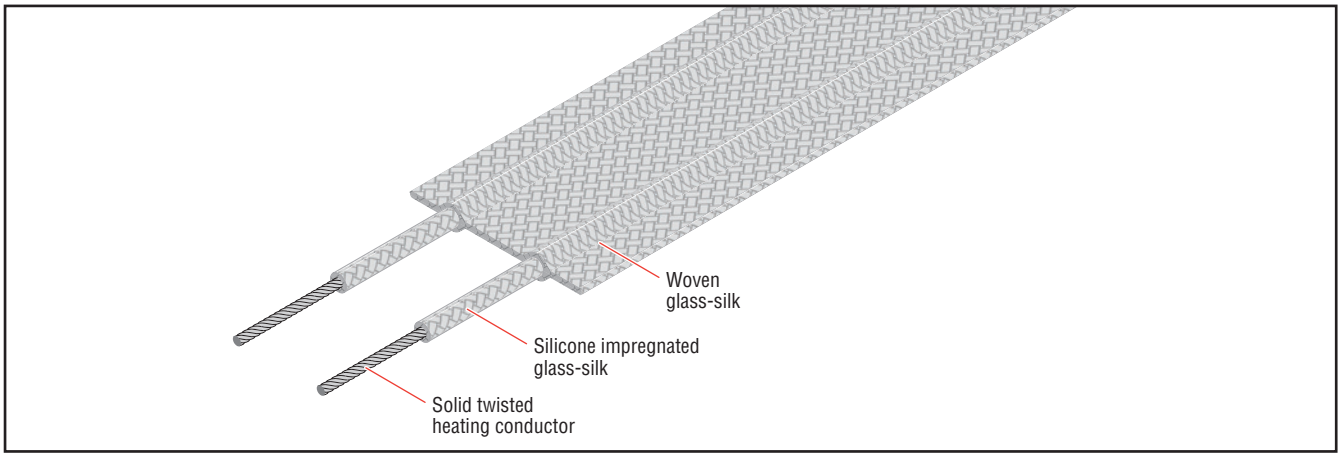
(2) Tolerances ±10%

IT-ITH

Glassfibre-insulated heating tape

Isopad IT-ITH is a factory-terminated heating tape with go-and-return series resistance heating elements. They are suitable for high temperature applications in indoor locations or areas where there is no risk of moisture ingress.

It is electrically insulated with a silicone varnished glass braid and the heating element is enclosed in a glass woven carrier and terminated with cold tails and a M20 gland.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	See note
Maximum withstand temperature (power off)	450°C
Storage temperature	–20 to +50°C
Minimum installation temperature	–20°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Width	30 mm ±10%
Thickness	4 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Glass-silk
Material of outer sheath	Woven glass-silk

Lead Connection	
Connection length	0.6 m

Lead Connection

Cross section	2 x 1.0 mm²
Maximum operating temperature	450°C
Insulation material	Glass-silk

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	240 / 110 Vac
Power per meter	75 / 150 W/m
Maximum operating temperature	450°C
Minimum bend radius	15 mm
Minimum spacing	5 mm

Ordering Information

Power per meter		**75 W/m**			**150 W/m**	
Nominal voltage	**Part number**	**Length(1) (m)**	**Nominal Power(2) (W)**	**Part number**	**Length(1) (m)**	**Nominal Power(2) (W)**
240 V	127826-000	1.1	87	698158-000	0.8	120
	355644-000	2.2	164	492204-000	1.5	240
	264108-000	3.1	232	514720-000	2.2	327
	973710-000	3.9	295	325606-000	2.8	411
	278420-000	5.1	376	979028-000	3.6	533
	868414-000	6.7	496	930930-000	4.7	707
	466228-000	8.4	618	298266-000	5.9	880
	170822-000	9.2	681	056372-000	6.5	963
	219944-000	10.1	743	002600-000	7.1	1056
	–	–	–	596744-000	8.3	1226
	–	–	–	880458-000	9.5	1397
	–	–	–	767952-000	10.7	1574
110 V	587656-000	1.1	69	666324-000	0.8	126
	889796-000	2.2	138	426438-000	1.5	202
	975976-000	3.1	225	493776-000	2.2	317
	205392-000	3.9	280	563450-000	2.8	389
	558546-000	5.1	384	200410-000	3.6	544
	045818-000	6.7	438	878192-000	4.7	625
	410820-000	8.4	558	468368-000	5.9	795
	171030-000	9.2	674	961370-000	6.5	954

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

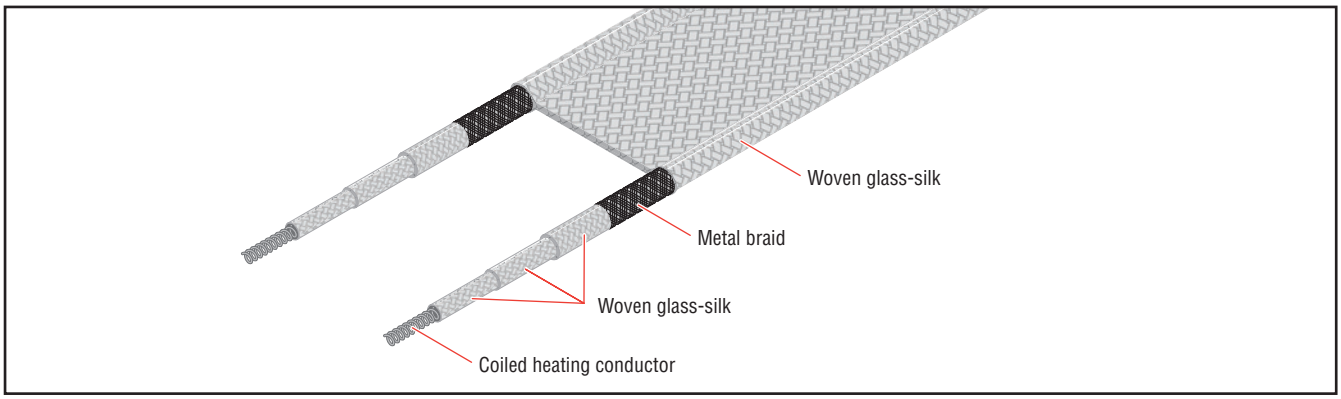
(2) Tolerances ±10%

Glassfibre-insulated heating tape

Isopad IT-S45 is a preterminated, flexible heating tape consisting of a glassfibre insulated, flexible fabric weave with interior heating conductors. The protective overbraid of the coiled heating conductors meets the requirements of Protection Class I.

The temperature depends on the power and application. Please make sure that the heating tape does not exceed the maximum withstand temperature.

This heating tape is typically used for heating up and compensating for heat losses on short pipes and small-sized structures. The heating tape is not moisture-protected and must only be used in dry areas.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	Class I
Maximum withstand temperature (power off)	450°C
Storage temperature	–40 to +50°C
Minimum installation temperature	–40°C

Standard Manufacturing Sizes	
Width	30 mm ±10%
Thickness	5 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Nickel-chrome-alloy
Material of insulation	Glass-silk
Material of outer sheath	Copper-nickel braid
Carrier	Glass-silk woven fabric

Lead Connection	
Connection length	1.0 m

Lead Connection	
Cross section	2 x 1.0 mm²
Maximum operating temperature	200°C
Insulation material	PTFE

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	250 W/m
Maximum operating temperature	450°C
Minimum bend radius	15 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length(1) (m)	Nominal Power(2) (W)	Nominal Voltage (Vac)
Other lengths and power specifications, etc., available upon request	386552-000	0.5	100	230
	542364-000	1.0	250	230
	051330-000	1.5	375	230
	111280-000	2.0	500	230
	870574-000	2.5	625	230
	873740-000	3.0	750	230
	596276-000	4.0	1000	230
	932450-000	5.0	1250	230

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)
(2) Tolerances ±10%

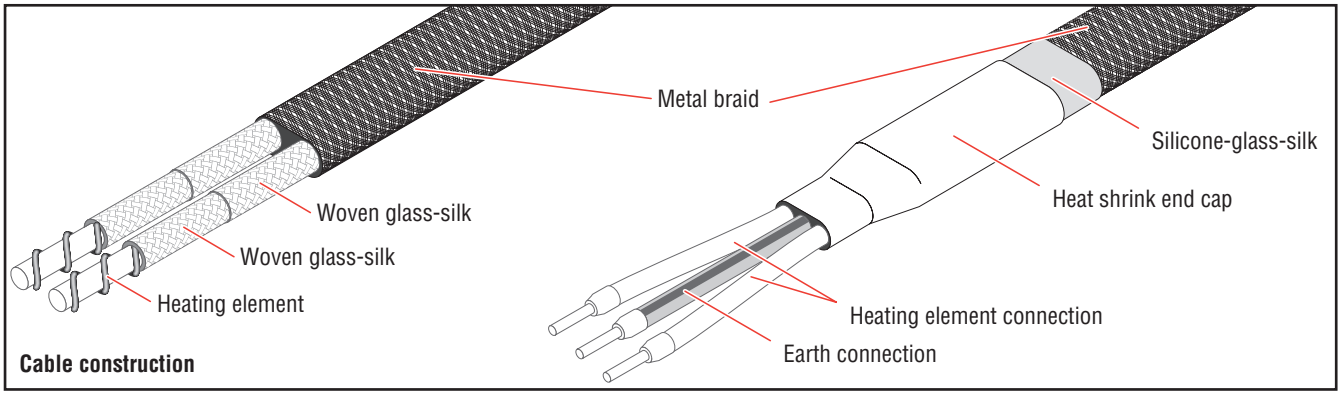
Glass silk heating tape

Isopad IT-S20 is a preterminated, flexible heating tape with a copper-tinned outer braiding serving as a protective earth braid. The temperature depends on the power and application.

Please make sure that the heating tape does not exceed the maximum withstand temperature.

This heating tape enables maximum power to be installed even in the case of small surfaces.

The heating tape can be used for temperature modification of pipes and structures in the industrial and laboratory sectors.



Cable construction

Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	Class I
Maximum withstand temperature (power off)	450°C
Storage temperature	–40 to +50°C
Minimum installation temperature	–40°C

Standard Manufacturing Sizes	
Width	12 mm ±10%
Thickness	7 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Glass-silk
Material of outer sheath	Copper-nickel braid

Lead Connection	
Connection length	1.0 m
Cross section	2 x 1.5 mm^2
Maximum operating temperature	200°C
Insulation material	Silicone-glass-silk

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Maximum power per meter	220 W/m
Maximum operating temperature	450°C
Minimum bend radius	15 mm
Minimum spacing	5 mm

Ordering Information

	Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)
Other lengths and power specifications, etc., available upon request	263604-000	0.5	110	230
	114346-000	1.0	220	230
	704368-000	1.5	330	230
	153620-000	2.0	440	230
	443830-000	3.0	650	230
	054874-000	5.0	1090	230
	522884-000	7.0	1530	230
	261076-000	10.0	2180	230

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

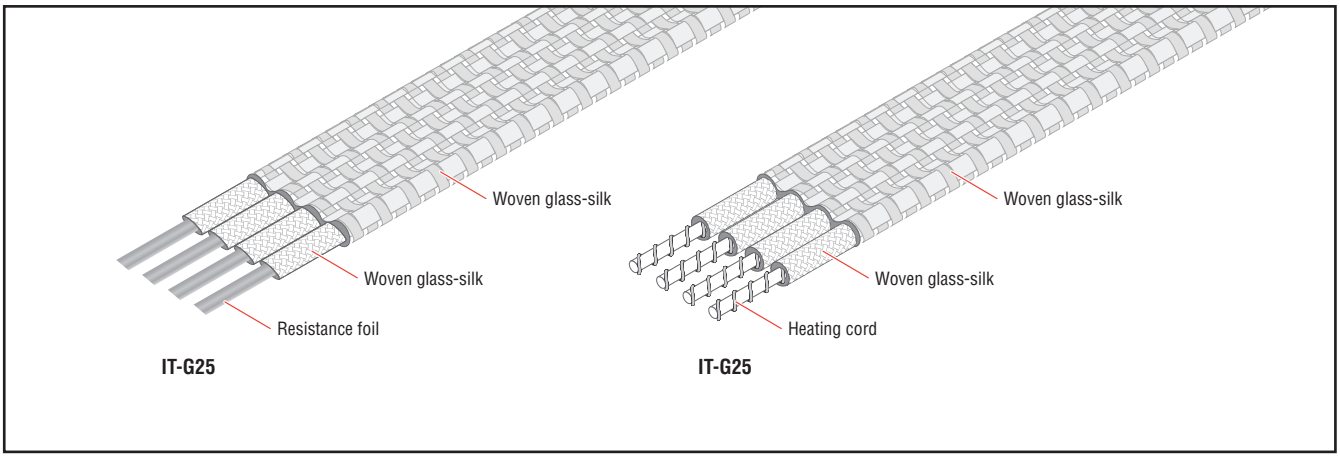
IT-G25

Constant wattage series tape

The Isopad IT-G25 type is a factory-terminated heating tape constructed from resistance foil or wire heating elements.

The elements are stitched into a total of six layers (three per side) of glass tape, which acts as a carrier.

These tapes are suitable for indoor use or areas where there is no risk of moisture ingress.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	See note
Maximum withstand temperature (power off)	450°C
Storage temperature	–40 to +50°C
Minimum installation temperature	–40°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Width	25 mm ±10%
Thickness	2 or 4 mm ±10%, depending on design

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Glass-silk
Material of outer sheath	Woven glass-silk

Lead Connection	
Connection length	1.0 m
Cross section	2 x 1.0 mm^2
Maximum operating temperature	450°C
Insulation material	Glass-silk

Technical Data	
Frequency	50-60 Hz

Technical Data

Nominal operating voltage	230 Vac
Maximum power per meter	650 W/m
Maximum operating temperature	450°C
Minimum bend radius	25 mm
Minimum spacing	5 mm

Ordering Information

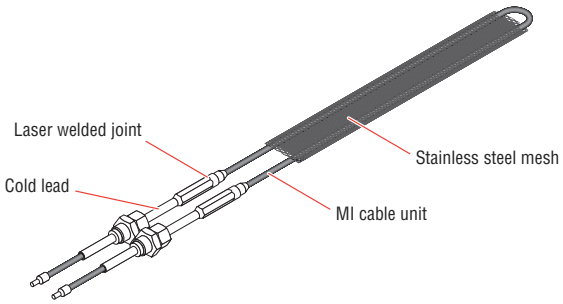
	Part number	Length[1] (m)	Nominal power[2] (W)	Nominal voltage (Vac)
Other lengths and power specifications, etc., available upon request	017628-000	1.8	1084	230
	891490-000	1.8	661	230
	396998-000	3.6	1630	230
	131950-000	3.6	1084	230
	940384-000	5.4	1451	230
	604576-000	5.4	748	230
	207500-000	7.5	780	230
	667 608-000	7.5	1901	230
	743210-000	9.0	1735	230
	068742-000	12.0	1304	230

(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

Mineral insulated heating tape

Isopad IT-ITS/SS is a factory-terminated mineral insulated heating tape with laser-welded joints. The tape has a go-and-return mineral insulated element embedded in a highly compressed mineral insulant covered by a malleable metal sheath. This tape is excellent for use where high mechanical protection and high resistance to corrosion is needed.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP68
Electrical protection class	Class 1
Maximum withstand temperature (power off)	600°C
Minimum installation temperature	–40°C

Standard Manufacturing Sizes	
Width	25 mm ±10%
Thickness	4 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Nickel-chrome-alloy
Material of insulation	Magnesium oxide (MgO)
Material of outer sheath	Stainless steel

Lead Connection	
Glands	Brass M20
Cold lead	Laser welded hot to cold joint with 500 mm long mineral insulated cold lead
Terminating tails	150 mm long stranded nickel with PVC sleeve

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	240 / 110 Vac
Power per meter	50 / 100 / 200 / 300 W/m
Maximum operating temperature	500°C at 50 / 100 W/m 400°C at 200 W/m 300°C at 300 W/m

Ordering Information

Output		50 W/m			100 W/m	
Maximum pipe temperature (power on)		500°C			500°C	
Nominal voltage	Part number	Length[1] (mm)	Nominal power[2] (W)	Part number	Length[1] (mm)	Nominal power[2] (W)
240 V	621824-000	7590	379	648526-000	5370	537
	124116-000	9560	478	443082-000	6760	676
	532334-000	12000	600	763344-000	8490	849
110 V	511432-000	4380	219	456148-000	3100	310
	156760-000	5500	275	460350-000	4920	492
	756964-000	6960	348	567244-000	6150	615

Output		200 W/m			300 W/m	
Maximum pipe temperature (power on)		400°C			300°C	
Voltage	Part number	Length[1] (mm)	Nominal power[2] (W)	Part number	Length[1] (mm)	Nominal power[2] (W)
240 V	356910-000	4780	956	135114-000	4900	1470
	004442-000	6000	1200	225684-000	6200	1859
	338346-000	7590	1518	656376-000	7750	2324
110 V	192802-000	3480	696	845712-000	3550	1065
	362256-000	5500	1100	505374-000	5660	1697
	384928-000	6930	1386	350238-000	7100	2130

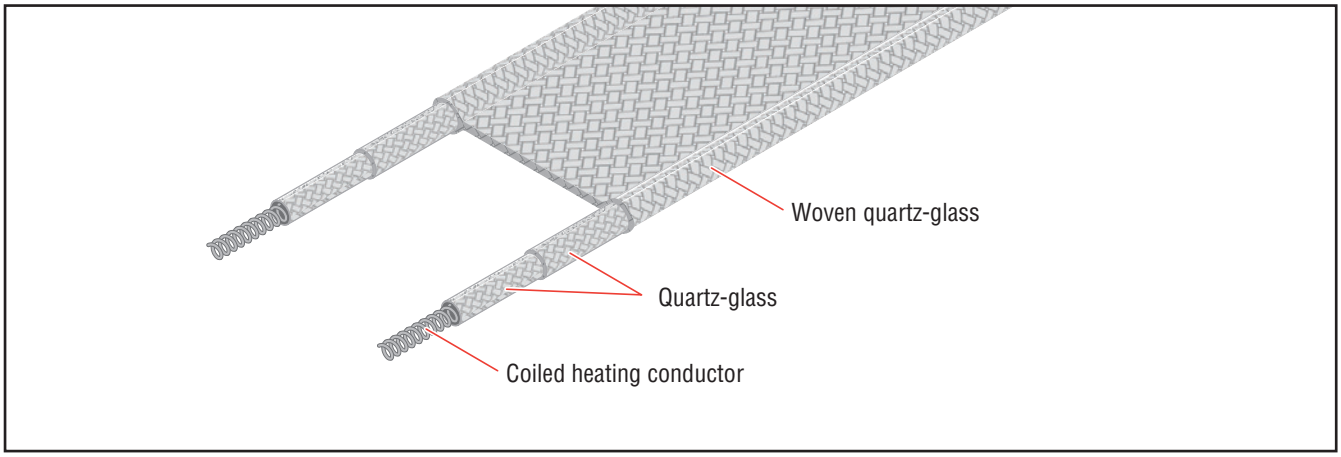
(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

Nonstandard versions are available

Quartz-glass insulated heating tape

Isopad IT-H heating tape is suitable where high power input is needed or where work has to be carried out at high temperatures. The high-quality quartz glass allows a working element temperature of up to 900°C. This tape should only be used in dry atmospheres with additional electrical protection and always with a temperature regulator.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP20
Electrical protection class	See note
Maximum withstand temperature (power off)	900°C
Storage temperature	–40 to +50°C
Minimum installation temperature	–50°C

Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.

Standard Manufacturing Sizes	
Width	30 mm ±10%
Thickness	6 mm ±10%

Heater Construction	
Type	Resistance heating cable
Material	Nickel-chrome-alloy
Material of insulation	Quartz-glass
Material of outer sheath	Woven quartz-glass

Lead Connection	
Connection length	0.35 m
Cross section	2 x 1.5 mm^2
Maximum operating temperature	450°C
Insulation material	Glass-silk

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	230 Vac
Power per meter	Maximum 380 W/m
Maximum operating temperature	900°C
Minimum bend radius	15 mm
Minimum spacing	5 m

Ordering Information

	Part number	Length[1] (m)	Nominal Power[2] (W)	Nominal Voltage (Vac)
Outer lengths and power specifications, etc., available upon request	740644-000	0.5	180	230
	802236-000	1.0	380	230
	433904-000	1.5	540	230
	965602-000	2.0	760	230
	890228-000	2.5	930	230
	444118-000	3.0	1090	230

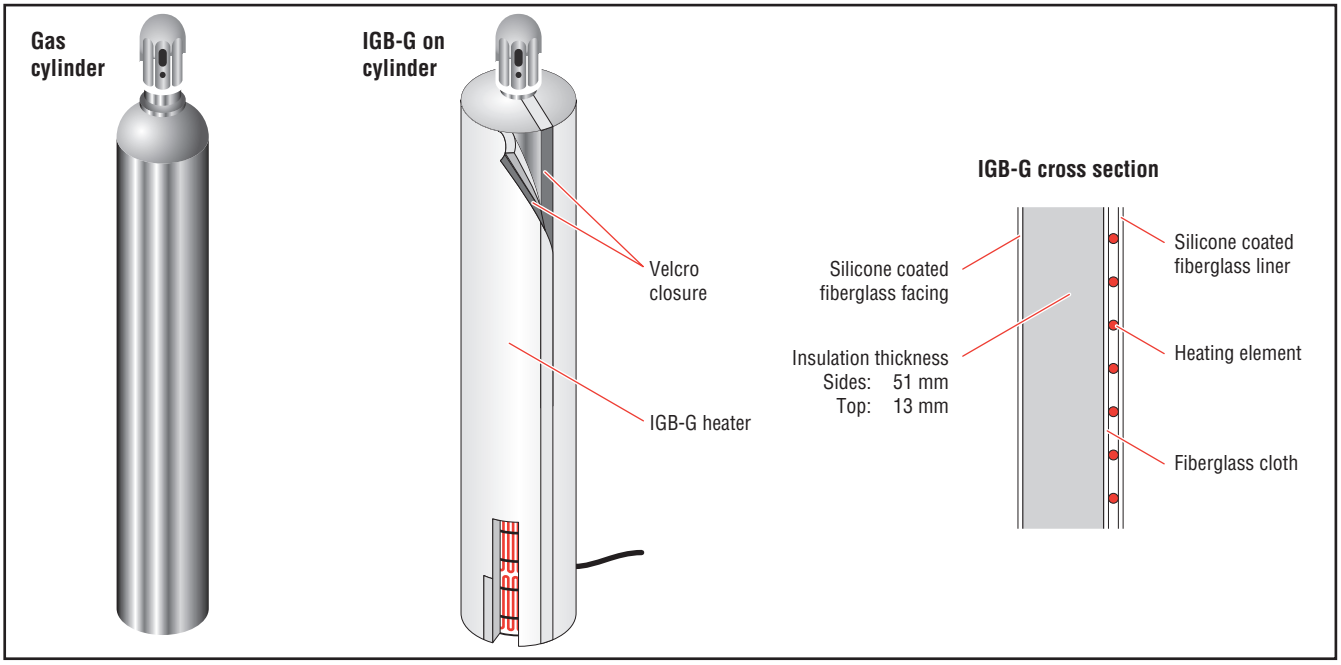
(1) Tolerances <2000 mm ± (1% + 50 mm)
>2000 mm ± (2% + 100 mm)

(2) Tolerances ±10%

IGB-G

Soft lag gas bottle heater

Isopad IGB-G soft jacket gas bottle heaters are designed to wrap around a gas bottle and heat the contents while insulating to keep the heat exactly where it needs to be. Waste associated with condensed gas can be reduced by heating gas cylinders. Gases known to benefit from this process are SF6, propane, nitrogen, oxygen, BCl3, WF6, and HF. These heaters are available in different gas cylinder sizes with a 240 V power supply. Isopad offers a variety of different versions, which can be tailored individually to the application.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP51
Electrical protection class	Class I
Maximum withstand temperature (power off)	66°C

Standard Manufacturing Sizes	
Outer diameter	203, 229 or 381 mm
Gas bottle size	40, 50 or 125 Litre

Heater Construction	
Heating element	Grounded
Material of insulation	Glass-silk cloth (sides 51 mm, top 13 mm)
Material of carrier	Silicone-impregnated glass-silk
Fixation and closure type	Hook and loop velcro outer sheath

Lead Connection	
Connection length	3 m
Insulation material	Silicone

Technical Data

Frequency	50-60 Hz
Nominal operating voltage	240 Vac

Ordering Information

Part number	Diameter (mm)	Length (mm)	Nominal Power (W)	Nominal Voltage (Vac)
1235-99910715	203	1219	150	240
1235-99910716	229	1295	150	240
1235-99910717	381	1092	150	240

Accessories

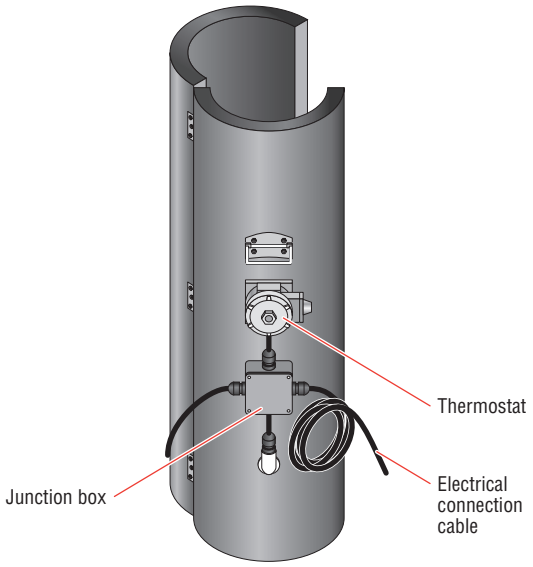
Insulated pad	Placed between gas bottle and floor. Further insulates the gas bottle from heatsinks such as concrete floor.
Valve cover	Placed on top. Reduces the amount of heat loss through the gas bottle.
Part number	**Description**
1235-99910721	Insulated gage/valve cover
1235-99910718	Insulated pad 203 mm gas bottle
1235-99910719	Insulated pad 229 mm gas bottle
1235-99910720	Insulated pad 381 mm gas bottle

Hazardous area gas bottle heaters

Gases today are usually supplied in metal bottles and whilst the removal of the gas is no problem in many applications, in the case of higher-quality gases the cylinder needs to be heated to guarantee complete removal of all of the gas. The heaters keep the bottles free from ice, maintain a constant pressure within the bottle, and enable the gas to be kept at an optimum processing temperature.

In hazardous area conditions additional safety is recommended.

These gas bottle heaters are designed to control gaseous media within their classified area and temperature class. These heaters are fully system approved by Baseefa according to the latest standards of ATEX and IECEx. They can be used in hazardous or nonhazardous, ordinary areas. A solid metal housing provides full protection against external forces. Self regulating heating cables ensure safe operation within the several temperature classes additionally controlled by a mechanical thermostat for maintaining individual required gas temperature. Quick-snap fasteners and castors provide ease of installation around the gas bottle.



Area Specifications	
Area classification	Hazardous area
Zone	Gas 1, 2 Dust 21, 22
Temperature class	T2, T4, T6
Ingress protection	IP6X (IP65)
Electrical protection class	Class I
Ambient temperature range	–40 to +50°C

Certifications	
Approvals	System approval by Baseefa
Number of certificate	Baseefa08ATEX0280X / IECEx BAS 08.0088X
Marking	Ex II GD Ex de IIC T2 ... T6 Ex tD A21 IP6X T240°C ... T80°C
Norms	EN, IEC Standard

Standard Manufacturing Sizes	
Height	750, 1130, 1350, 1400 mm
Inner diameter	150, 214, 239, 328 mm
Outer diameter	250, 314, 339, 428 mm
Other dimensions available on request	

Heater Construction	
Type	Self-regulating heating cable
Carrier	Sheet metal steel
Material of thermal insulation	Glass-fibre
Thickness	40 mm
Outer protection	Sheet metal steel
Paint	Matt black heat resistant and structured blue paint
Fixation and closure type	Quick-snap fastener

Connection	
Junction box (type)	STAHL Series 8118
Ingress protection	IP66
Maximum ambient temperature	–50 to +55°C
Maximum connecting cross section	4 mm²
Terminals	8
Glands	4 x M25
Housing material	Polyester glass-fibre reinforced
Connection lead length	2 m
Lead cross section	4 mm²
Maximum operating temperature	180°C
Connection lead insulation material	Silicone

Temperature Control	
Thermostat (type)	RAYSTAT-EX-02
Sensor type	Capillary tube
Controller range	–4 to +163°C
Ingress protection	IP65
Maximum ambient temperature	–40 to +60°C
Housing material	Aluminium

Technical Data	
Frequency	50-60 Hz
Maximum operating voltage	277 Vac (~1ph)
Maximum operating temperature	65 to 120°C (depends on heating cable type and temperature class)
Operating voltage and power output depending on design	

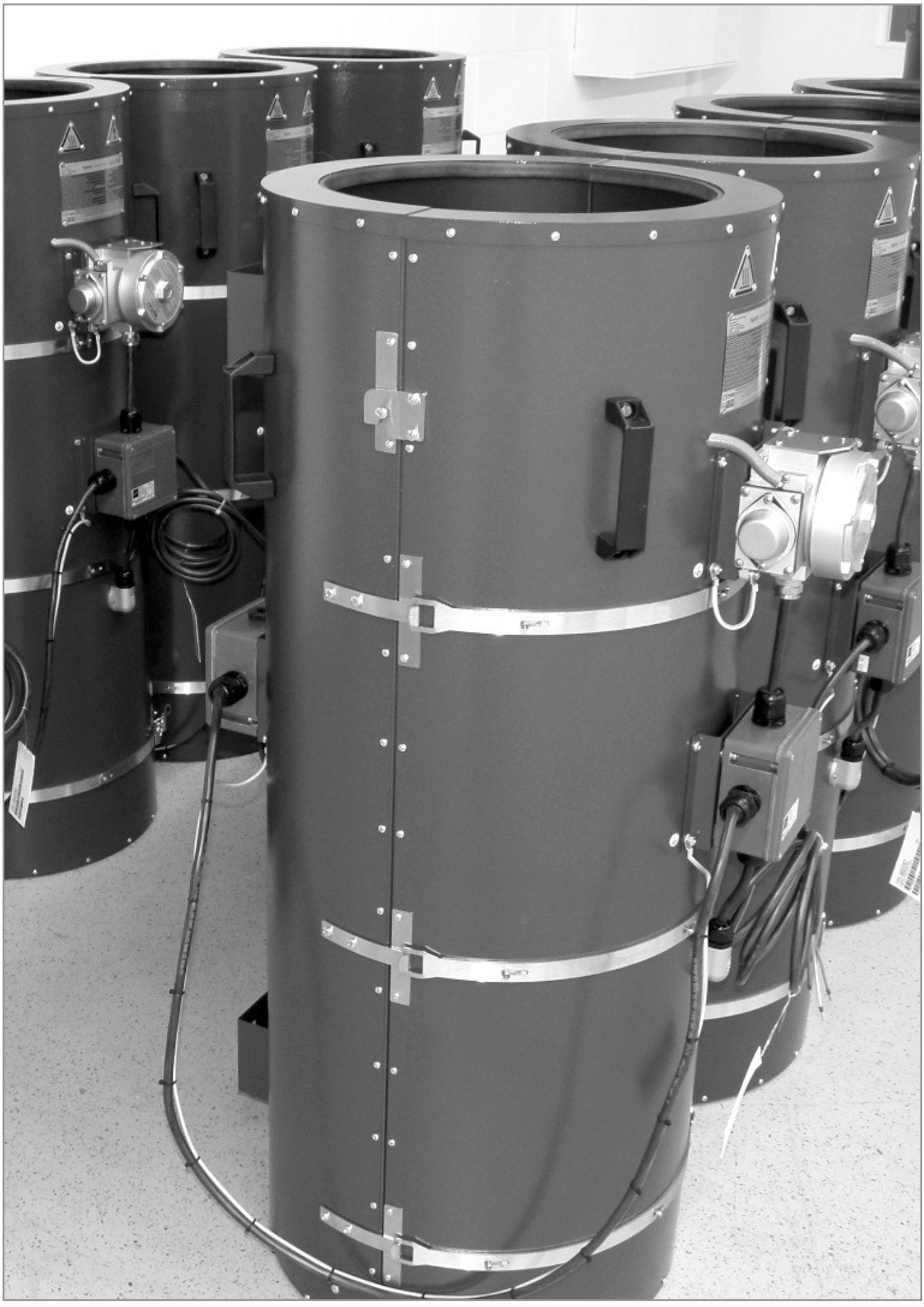
Options

Design with other housing materials (e.g. stainless steel)
Alternative junction box type JBU-100-L-E with signal lamp for operating status (ON/OFF)

Ordering Information

Part number	For standard sizes (Ltr)	Height[1] (H) (mm)	Inner diameter[1] (ID) (mm)	Outer diameter[1] (OD) (mm)	Nominal power[2] (W)	Nominal voltage (Vac)	Weight (kg)
1235-08250101	10	750	150	250	630	230	14
1235-08250102	10	750	150	250	640	230	14
1235-08250103	10	750	150	250	290	230	14
1235-08250201	20	750	214	314	820	230	18
1235-08250202	20	750	214	314	830	230	18
1235-08250203	20	750	214	314	380	230	18
1235-08250401	40	1400	214	314	1550	230	30
1235-08250402	40	1400	214	314	1570	230	30
1235-08250403	40	1400	214	314	710	230	30
1235-08250501	50	1350	239	339	1490	230	32
1235-08250502	50	1350	239	339	1510	230	32
1235-08250503	50	1350	239	339	680	230	32
1235-08250801	79	1130	328	428	1510	230	37
1235-08250802	79	1130	328	428	1540	230	37
1235-08250803	79	1130	328	428	700	230	37

(1) Tolerances according to DIN ISO 2768 c
(2) Tolerances ±10% at 230 Vac and +10°C



IDR
IBDR
IDR-IBDR-CON

D100
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011A

Drum and base drum heaters

These types of Isopad drum and base drum heaters are used to provide medium flow and process temperature in ordinary environments. The special design including a high powered resistance heating cable embedded in a solid metal housing ensures the maximum on power output at operating conditions. These heating units can be used for higher temperatures and faster heat up times. These heaters are designed for standard drum sizes of 200L.

Drum Heater

The drum heater is made out of a two-pieced metal housing to be opened and closed via hinges and fasteners standing on special castors. The solid design ensures stable operation even on unlevel surfaces. The metal housing carries the heating cable and evenly distributes the temperature to the drum. A mechanical thermostat regulates the operating temperature. Each drum heater includes a lid. To reduce heat loss at top it is recommended to use our insulated lid.

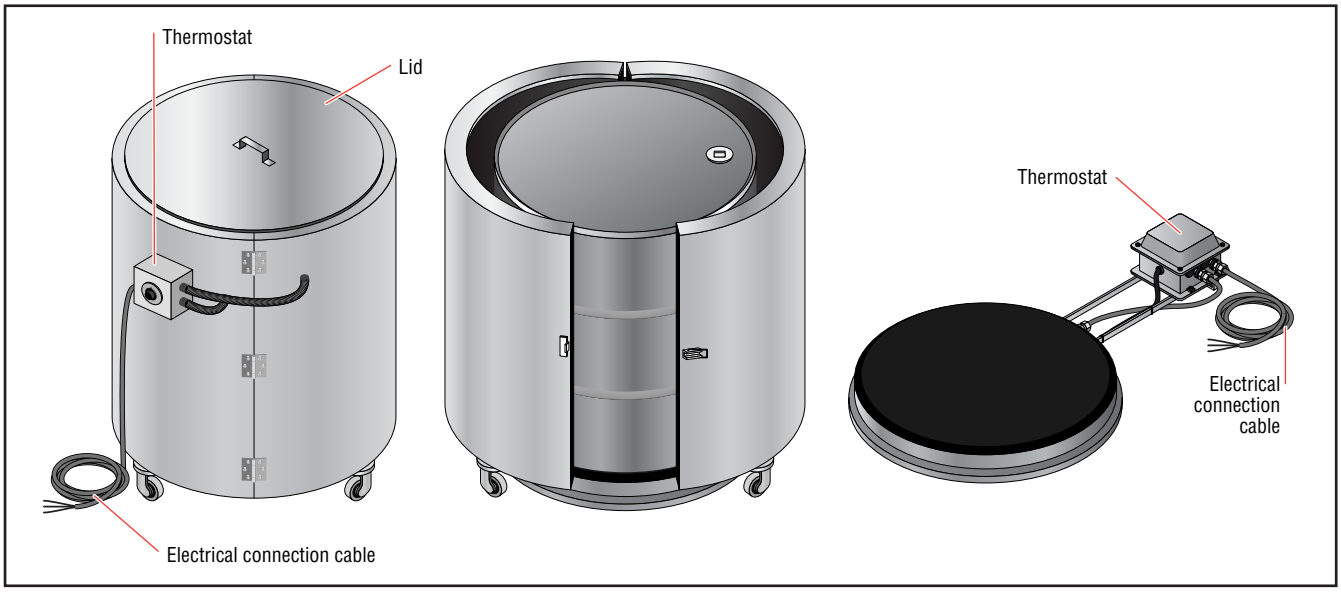
Base Drum Heater

The base drum heater is a perfect addition to the the drum heater to prevent heat loss from below. A metal housing carries the heating cable and evenly distributes the temperature to the drum. An aluminum casted mechanical thermostat regulates the operating temperature by achieving a maximum on safety during operation.

Drum and Base Drum Heater Unit

A combination of a drum and base drum heater was created to just use a single control mechanism. The Base drum heater can be connected to the drum heater and is thereby controlled by one thermostat. This unit was designed for drum sizes of 200L.

For hazardous area drum heater systems see our FIDR-SR/FIBDR-SR datasheet.



	IDR drum heater	IDBR base drum heater
Area Specifications		
Area classification	Nonhazardous, ordinary area	Nonhazardous, ordinary area
Ingress protection	IP52	IP52
Electrical protection class	Class I	Class I
Ambient temperature range	–20 to +40°C	–20 to +40°C
Standard Manufacturing Sizes		
Height	980 mm including castors	75 mm heating surface
Inner diameter	650 mm	–
Outer diameter	770 mm	570 mm
Other dimensions on request		

Heater Construction		
Type	Resistance heating cable	Resistance heating cable
Material	Various alloys	Various alloys
Material of heater insulation	Glass-silk	Glass-silk
Carrier	Woven glass-silk	Woven glass-silk
Material of thermal insulation	Glass-fibre	Mineral-fibre
Thickness	50 mm	50 mm
Outer protection type	Sheet steel	Sheet steel
Paint	Matt black heat resistant and hammer trimite silver-grey	Matt black heat resistant and hammer trimite silver-grey
Fixation and closure type	Quick-snap fastener	–

Lead Connection		
Connection length	2 m	3 m
Cross section	2.5 mm²	2.5 mm²
Maximum operating temperature	80°C	80°C
Insulation material	PVC	Armoured PVC

Temperature Control		
Thermostat type	TS-C	TSW
Sensor type	Capillary tube	Capillary tube
Controller range	50 to 300°C	50 to 300°C
Ingress protection	IP52	IP65
Maximum ambient temperature	–25 to +40°C	–20 to +80°C
Housing dimension (LxWxH)	110 x 110 x 90 mm	170 x 150 x 100 mm
Housing material	Thermoplast PS	Aluminium cast

Technical Data		
Frequency	50-60 Hz	50-60 Hz
Nominal operating voltage	230 / 400 Vac (~1ph / ~3ph)	230 Vac (~1ph)
Nominal power	4000 W	900 W
Maximum operating temperature	300°C	300°C

Options

Alternative controller setting range 0°C to +43°C or +30°C to +110°C
Additional insulation-lid for reduction of heat loss (see order information accessories)

Ordering Information

Part number	Description	For standard sizes (Ltr)	Height[1] (mm)	Inner diameter[1] (ID) (mm)	Outer diameter[1] (OD) (mm)	Nominal power[2] (W)	Nominal voltage (Vac)	Weight (kg)
151746-000	Drum heater	200	990	650	770	4000	230 ~1ph	46
150560-000	Drum heater	200	990	650	770	4000	400 ~3ph	46
514096-000	Base drum heater	200	–	–	–	900	230 ~1ph	20
931092-000	Drum and base drum heater combination	200	–	–	–	4900	230 ~1ph	60
1235-99900673	Drum and base drum heater combination	200	–	–	–	4900	400 ~3ph	60
463570-000	Insulated lid	200	85	790	798	–	–	20

(1) Tolerances according to DIN ISO 2768 c
(2) Tolerances ±10%

FIDR-SR
FIBDR-SR

D100
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011A

Hazardous area drum and base drum heaters

These Isopad drum and base drum heaters are used to provide medium flow and process temperature in hazardous environments. The special design including a self-regulating heating cable embedded in a solid metal housing ensures the maximum in safety at operating conditions. Using this design an additional temperature limiter is not necessary.

These heaters are designed for standard drum sizes of 200 L and are fully system approved by Baseefa according to the latest standards of ATEX and IECEx.

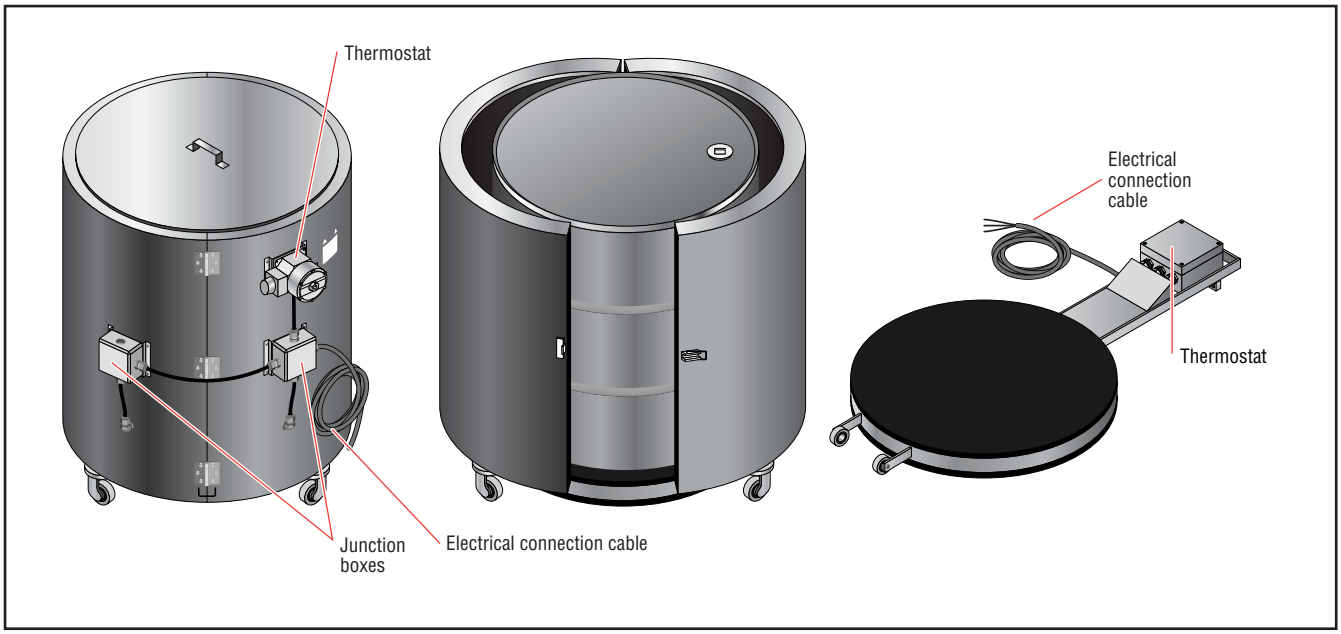
Drum Heater

The drum heater is made out of a two-pieced metal housing to be opened and closed via hinges and fasteners standing on conductive castors. The solid design ensures stable operation even on unlevel surfaces. The metal housing carries the heating cable and evenly distributes the temperature to the drum. A mechanical thermostat regulates the operating temperature. Each drum heater includes a lid. To reduce heat loss at top it is recommended to use our insulated lid.

Base Drum Heater

The base drum heater is a perfect addition to the the drum heater to prevent heat loss from below. A solid alminium plate carries the heating cable and evenly distributes the temperature to the drum. An electro-mechanical thermostat regulates the operating temperature. The framework is made out of solid steel and comes with castors for easy transportation.

For ordinary area drum heater systems see our IDR, IBDR/IDR-IBDR-CON datasheet.



	FIDR-SR drum heater	FIDBR-SR base drum heater
Area Specifications		
Area classification	Hazardous area	Hazardous area
Zone	Gas 1,2 Dust 21, 22	Gas 1,2 Dust 21, 22
Temperature class	T2, T4, T6	T2, T4, T6
Ingress protection	IP6X (IP65)	IP6X (IP65)
Electrical protection class	Class I	Class I
Ambient temperature range	–40 to +50°C	–40 to +50°C

Certifications		
Approvals	System approval by Baseefa	System approval by Baseefa
Number of certificate	Baseefa08ATEX0280X / IECEx BAS 08.0088X	Baseefa08ATEX0280X / IECEx BAS 08.0088X
Marking	Ex II 2 GD Ex de IIC T2 ... T6 Ex tD A21 IP6X T240°C ... T80°C	Ex II 2 GD Ex e iam IIC T2 ... T6 Ex tD A21 IP6X T240°C ... T80°C
Norms	EN, IEC Standard	EN, IEC Standard

Standard Manufacturing Sizes		
Length	–	1100 mm including castors
Height	990 mm including castors	75 mm heating surface
Inner diameter	650 mm	–
Outer diameter	770 mm	546 mm
Other dimensions on request		

Heater Construction		
Type	Self-regulating heating cable	Self-regulating heating cable
Carrier	Sheet steel	Aluminium plate, anodised black
Material of thermal insulation	Glass-fibre	Mineral-fibre
Thickness	50 mm	50 mm
Outer protection	Sheet steel	Sheet steel
Paint	Matt black heat resistant and structured blue paint	Structured blue paint
Fixation and closure type	Quick-snap fastener	–

Connection		
Junction box (type)	STAHL Series 8118	–
Ingress protection	IP66	–
Maximum ambient temperature	–50 to +55°C	–
Maximum connecting cross section	4 mm²	–
Terminals	8	–
Glands	4 x M25	–
Housing material	Polyester glass-fibre reinforced	–
Connection lead length	2 m	2 m
Lead cross section	4 mm²	2.5 mm²
Maximum operating temperature	180°C	180°C
Connection lead insulation material	Silicone	Silicone

Temperature Control		
Thermostat type	RAYSTAT-EX-02	RAYSTAT-EX-03
Sensor type	Capillary tube	Pt100 2-wire
Controller range	–4 to +163°C	0 to +499°C
Ingress protection	IP65	IP66
Maximum ambient temperature	–40 to +60°C	–50 to +55°C
Housing material	Aluminium	Polyester glass-fibre reinforced

Technical Data

Frequency	50-60 Hz	50-60 Hz
Maximum operating voltage	277 Vac (~1ph)	254 Vac (~1ph)
Nominal operating voltage	Depending on design	Depending on design
Nominal power	Depending on design	Depending on design
Maximum operating temperature	65 to 120°C (depending on heating cable type and temperature class)	65 to 120°C (depending on heating cable type and temperature class)

Options

Design with other housing materials (e.g. stainless steel). Additional insulated lid for reduction of heat loss.
For drum heaters: alternative junction box type JBU-100-L-E with signal lamp for operating status (ON/OFF)

Ordering Information

Part number	For standard sizes (Ltr)	Height[1] (mm)	Inner diameter[1] (ID) (mm)	Outer diameter[1] (OD) (mm)	Nominal power[2] (W)	Nominal voltage (Vac)	Weight (kg)
Drum heaters							
1235-08230101	200	990	650	770	3930	230	60
1235-08230102	200	990	650	770	3990	230	60
1235-08230103	200	990	650	770	1810	230	60
Base drum heaters							
1235-08240101	200	78	–	546	1150	230	20
1235-08240102	200	78	–	546	1170	230	20
1235-08240103	200	78	–	546	530	230	20
Insulated lid							
1235-08021000	200	85	790	798	–	–	20

(1) Tolerances according to DIN ISO 2768 c
(2) Tolerances ±10% at 230 Vac and +10°C

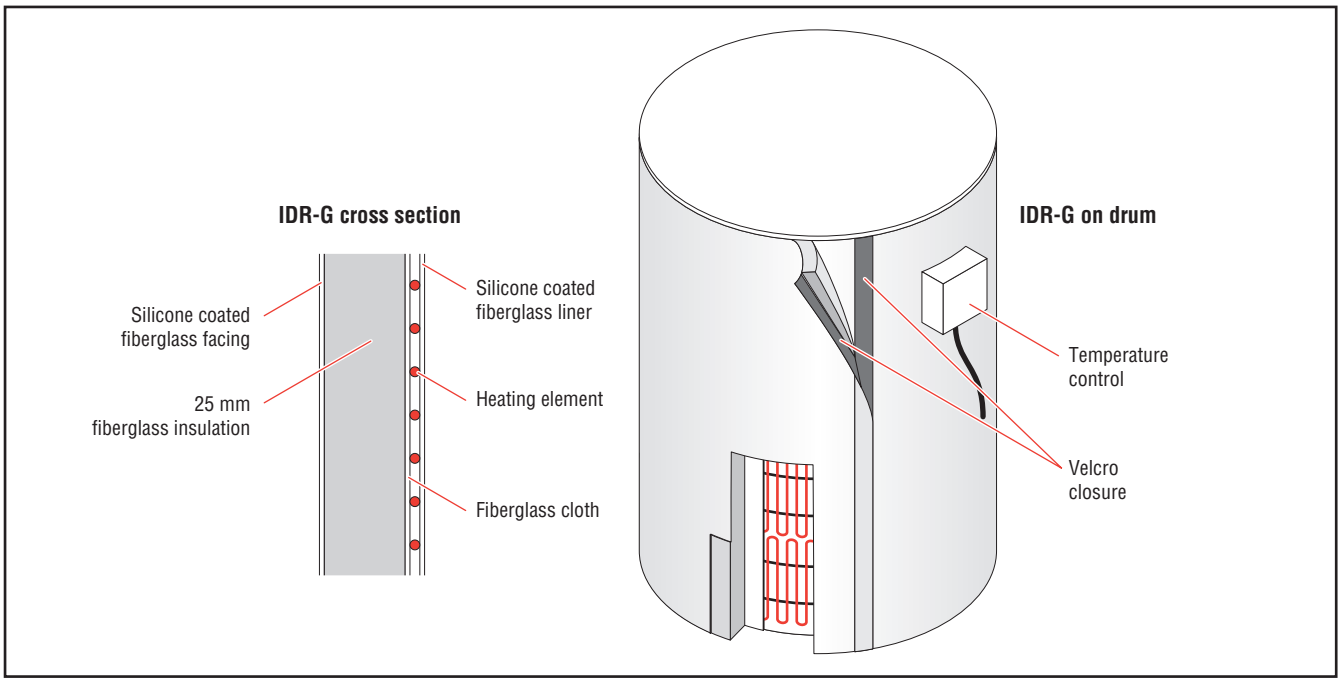
Soft jacket drum heater

Isopad IDR-G soft jacket drum heaters are designed to wrap around a drum and heat the contents. They are insulated to maximize heat efficiency.

These combine the convenience of quick heat-up time and the precision of a digital controller to present you with a practical, efficient means of freeze protection, viscosity control, and maintenance of materials at elevated temperatures.

Drum heaters of the Series IDR-G are intended for use only in dry, indoor areas.

For more details and special design, please contact your local representative.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP51
Electrical protection class	Class I
Maximum withstand temperature (power off)	260°C

Standard Manufacturing Sizes	
Outer diameter (OD)	565 mm
Drum size	200 ltr
Weight	Approximately 15 kg

Heater Construction	
Heating element	Grounded
Material of insulation	25 mm glass-silk cloth
Material of outer sheath	Silicone-impregnated glass-silk
Digital on/off temperature controller	10 to 232°C for metal drums; 10 to 71°C for poly drums
Fixation and closure type	Hook and loop velcro outer sheath

Lead Connection

Connection length	1.8 m
Insulation material	Silicone

Technical Data

Nominal operating voltage	240 Vac
Power output	550 to 600 W for metal drums; 770 W for poly drums
Dielectric strength	>2000 V
Recommended storage temperature	–20 to 40°C

Ordering Information

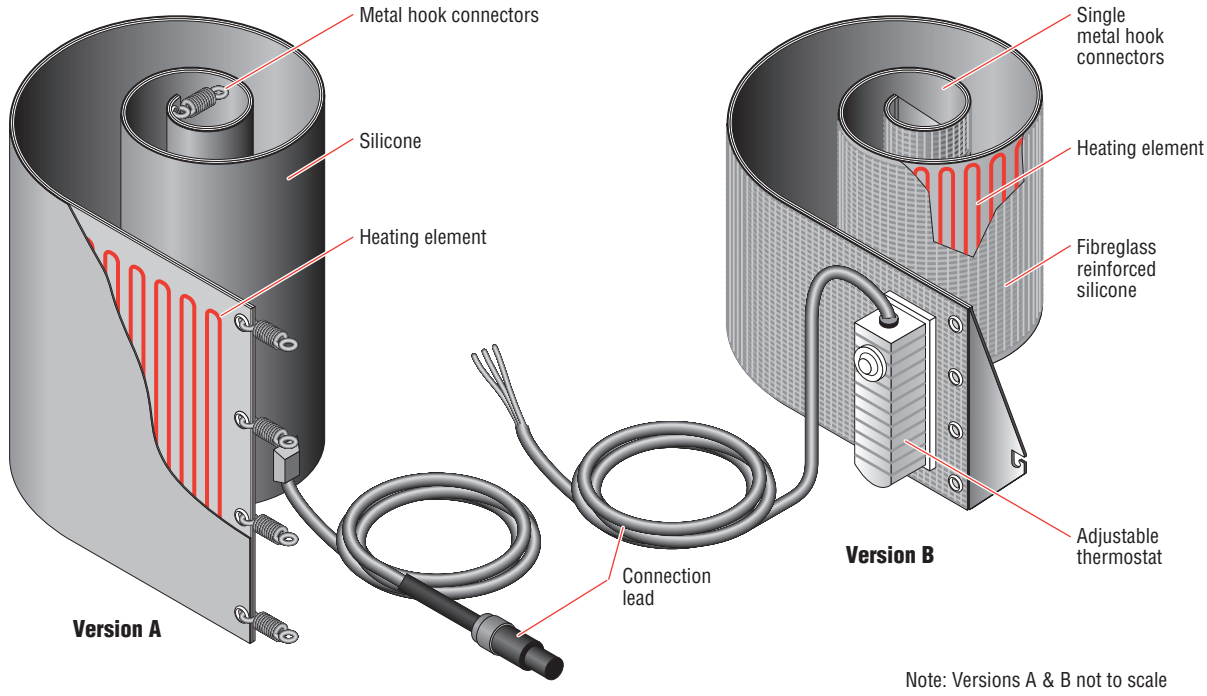
Part number	Product description	Drum size (L)	Nominal Power[1] (W)	Nominal Voltage (Vac)
1235-99205938	IDR-G/208L/240V/1600W	200	1600	240

Special versions on request

[1] Tolerance: ±10%

Silicone drum heating band

Heaters are often used to promote effective processing of high viscosity media or gases in barrels, drums, or gas cylinders. These silicone heating bands are a simple, low-cost way to heat drums and gas bottles. There are two versions available. One (Version A) is supplied with internal Pt100 sensor and temperature limiter to 180°C. The other (Version B) is supplied complete with a built-in adjustable thermostat with a control range of 10°C to 218°C. An external controller-box is available.



Note: Versions A & B not to scale

Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP65
Electrical protection class	Class I
Storage temperature	-20 to +50°C
Minimum installation temperature	-20°C

Standard Manufacturing Sizes	
Length	1760 / 1677 / 1384 mm ± 4%
Width	230 / 102 mm ± 2.5%

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of carrier	Version A is silicone or silicone-glass-silk. Version B is fibreglass reinforced silicone.

Lead Connection

Sensor type	Version A optional Pt100

Connection length, lead cross section, maximum operating temperature, connection lead material and thermostat depend on design

Technical Data

Frequency	50-60 Hz
Maximum operating voltage	230 / 240 / 120 Vac
Maximum power	1100 / 1200 / 1000 W
Maximum operating temperature	218°C (or 180°C if optional temperature limiter is included)

Minimum bend radius, maximum area load and maximum compression strength depend on design

Ordering Information

Part number	For standard sizes (Ltr) (m^2)	Length[1] (L) (mm)	Width[1] (H) (mm)	Nominal Voltage (Vac)	Nominal Power[2] (W)
Version with internal Pt100 sensor and temperature limiter to 180°C (Version A)					
171538-000	200	1760	230	230	1100
257692-000 (Controller for 1 band heater)				230	
972114-000 (Controller for 3 band heaters)				230	
Versions with adjustable thermostat 10°C to 218°C (Version B)					
791428-000	200	1677	102	240	1200
631912-000	110	1384	102	240	1000
118374-000	200	1677	102	120	1200
450166-000	110	1384	102	120	1000

(1) Tolerances < 400 (±2.5) / > 400 (±4.0)
(2) Tolerances ±10%

IP-DASI

D100
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011A

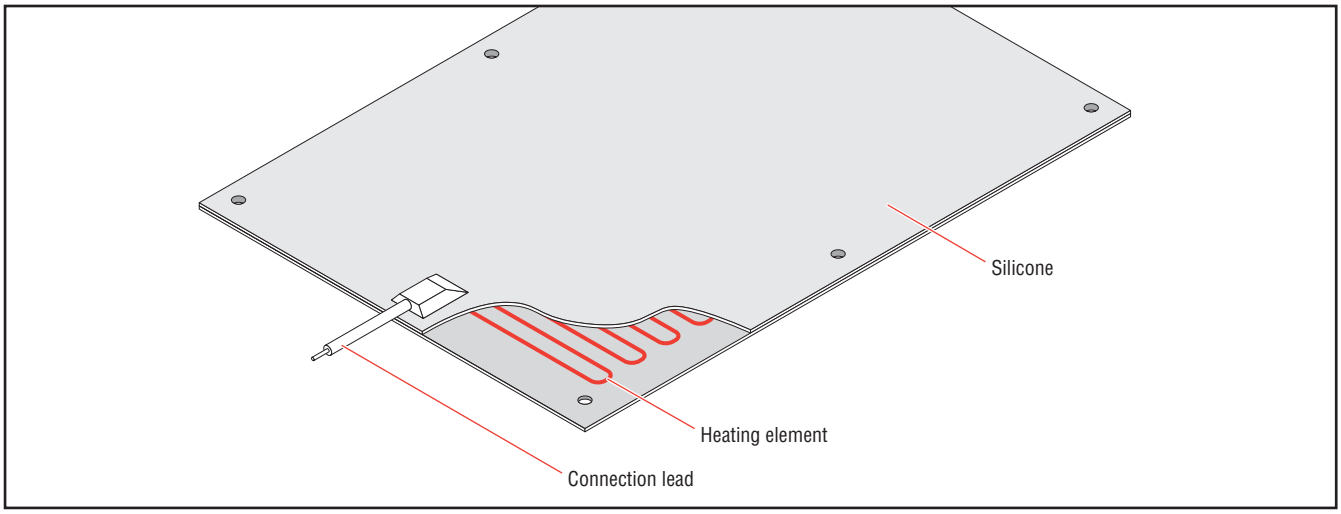
Standard silicone heating mat

Isopad IP-DASI silicone heating mats for industrial use are selected where excellent flexibility and high temperature resistance in thermal processes are required. The processed silicones have good resistance to ozone, oxygen, weathering, ageing effects, bacterial and fungal attacks. They are also highly resistant to various chemicals such as alcohol, acetylene, mineral oil, acids, glucose, and glues.

Used according to the manual instructions, IP-DASI heaters do not exceed the maximum panel temperature of 200°C, so no temperature sensor or controller is necessary.

The maintain temperature depends on the local environment. If you want more precise control, you can add an optional Isopad or DigiTrace controller and temperature sensor.

Special customized heating panels are available on demand; see our IP-SM datasheet for options. Please contact your local sales person for more details.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP65
Electrical protection class	Class II
Maximum withstand temperature (power off)	200°C
Storage temperature	–20 to +40°C
Minimum installation temperature	–45°C

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Carrier	Silicone mat
Material insulation	Silicone
Fixing and closure type	Holes 4 mm diameter

Lead Connection	
Connection length	1.0 m
Cross section	2 x 0.75 mm^2
Maximum operating temperature	180°C
Insulation material	Silicone

Technical Data

Frequency	50-60 HZ
Nominal operating voltage	230 Vac
Minimum insulation resistance	100 MΩ
Maximum operating temperature	200°C
Minimum bend radius	15 mm
Maximum area load	35 W/dm^2
Maximum compression strength	40 N/cm^2

Ordering Information

Part number	For standard sizes	Length[1] (L) (mm)	Width[1] (W) (mm)	Thickness[2] (S) (mm)	Nominal Voltage (Vac)	Nominal Power[3] (W)	Weight (kg)
375894-000	DINA4	297	210	3.3	230	220	0.35
524736-000	DINA3	420	297	3.3	230	440	0.7
188460-000	DINA2	594	420	3.3	230	980	1.2
611654-000	DINA1	841	594	3.3	230	1960	2.3

(1) Tolerances <400 mm ±2.5 mm
>400 mm ±4.0 mm

(2) Tolerances ±0.5 mm

(3) Tolerances ±10%

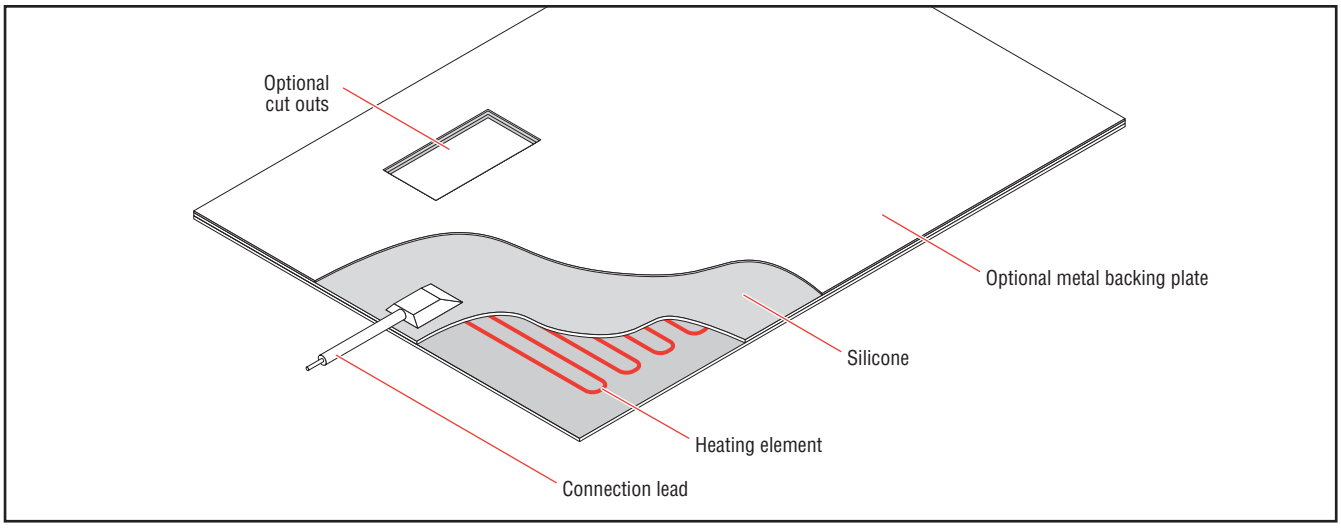
Custom design silicone heating mat

Isopad IP-SM silicone heating mats for industrial use are selected where excellent flexibility and high temperature resistance in thermal processes are needed. The processed silicones have good resistance to ozone, oxygen, weathering, ageing effects, bacterial and fungal attacks. They are also highly resistant to chemicals such as alcohol, acetylene, mineral oil, acids, glucose and glues.

Panels customized to your specification are designed with various options on insulated and metal backings, fixings, cutouts, and controllers. We will advise on the best options for your needs, and as each is different we supply a new technical specification.

To achieve exact surface temperatures, the heating panels are equipped on demand with Isopad or DigiTrace controllers and temperature sensors.

We also provide a range of standard sizes; see our IP-DASI datasheet. For more details on custom or standard versions, contact your local sales representative.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP65 (max. IP67)
Electrical protection class	Class II (see note)
Storage temperature	–20 to +40°C
Minimum installation temperature	–45°C

Note: Electrical protection class I with metal sheath

Standard Manufacturing Sizes	
Length	2000 mm (other sizes on request)
Tolerances	<400 mm (±2.5) / >400 mm (±4.0) (special sizes excluded)
Width	900 mm (other sizes on request)
Tolerances	<400 mm (±2.5) / >400 mm (±4.0) (special sizes excluded)
Thickness	2.0 to 4.5 mm (other sizes on request)
Tolerances	±0.5 mm (special sizes excluded)

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material insulation	Silicone
Carrier	Silicone or silicone-glass-silk mat
Thermal insulation	On request, e.g. silicone foam mats
Outer protection type	On request, e.g. stainless steel or aluminium sheet metal
Fixation and closure type	Diverse methods according to application, e.g. adhesive foil, holes, hooks, eyelets, velcro tape, etc.

General: on request the heating mats can be manufactured with 2-dimensional contours and cut-outs or can be pre-formed for special applications.

Lead Connection

Connection lead length, lead cross section, maximum operating temperature and connection lead material depend on design

Temperature Control	
Sensor type	PT100, Fe-CuNi/J or NiCr-Ni/K according to DIN IEC

Sensor lead length, lead cross section, maximum operating temperature and sensor lead material depend on design

Technical data	
Frequency	50-60 Hz
Maximum operating voltage	480 Vac (~1ph/~3ph)
Nominal power	±10% depending on design
Minimum installation resistance	100 MΩ
Maximum operating temperature	200°C (150°C for versions with adhesive foil)

Minimum bend radius, maximum area load and maximum compression strength depend on design

Ordering Information

Contact your local representative to discuss your requirements.

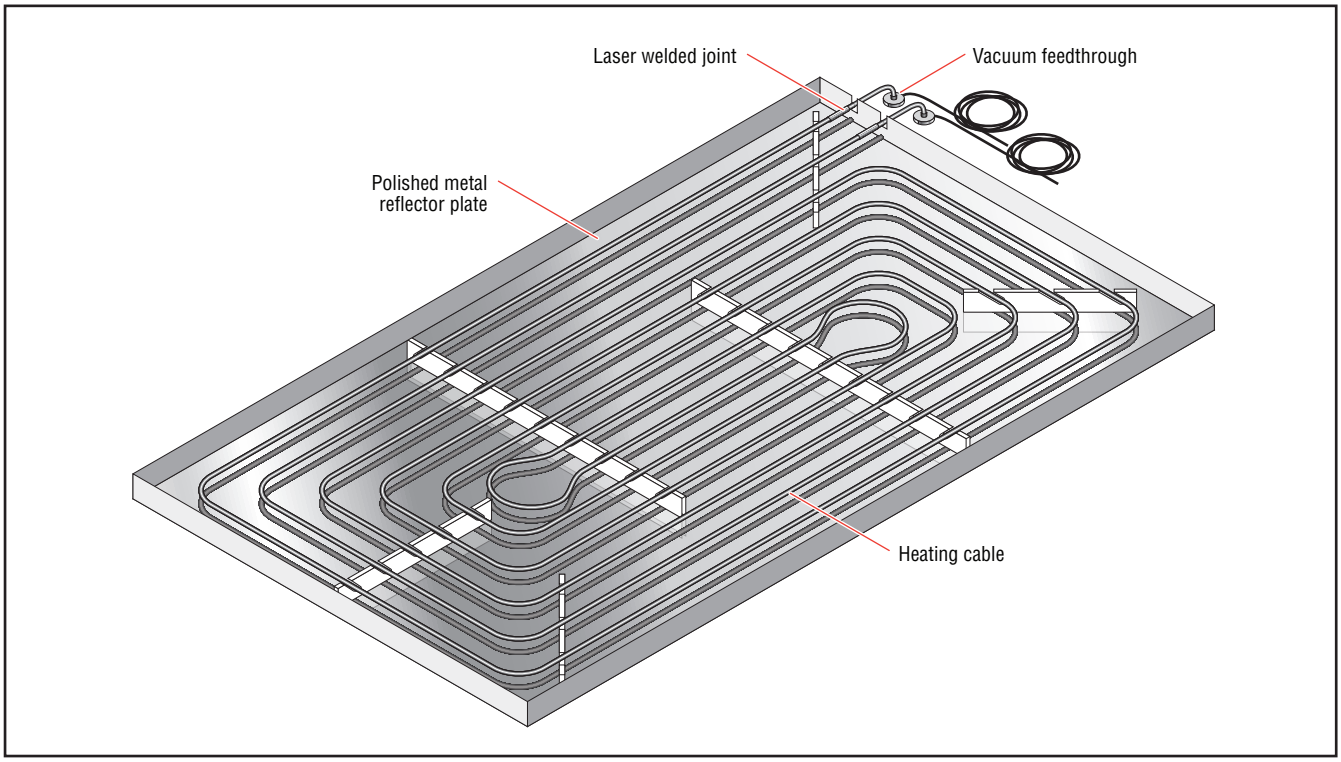
Isopad radiant heater

Isopad radient heaters (IRH) have been designed as a reliable non-contact electric heat source providing temperatures up-to 1000°C. The uniform heat density makes them ideal for PECVD vacuum coating processes and they have been widely adopted in high quality applications such as thin film solar panel manufacture.

At the core is a mineral insulated (MI) heating cable which is manufactured into a hermetically sealed heating element utilising laser welding technology, then formed to deliver optimum heat density and finally attached to a metallic plate which directs the heat to where it's required.

The lightweight, all-metal construction combined with the long element lengths made possible by MI cables minimise the number of vacuum feedthroughs required thus reducing the number of failure modes in the final assembly. Additional reliability is achieved using multiple temperature sensors with the option of fully integrated and vacuum tested power and sensor feedthroughs .

Thermocoax can provide a customised radiant heater to specific customer design requirements or engineer from a simple design outline.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP68
Electrical protection class	Class I
Maximum withstand temperature (power off)	1000°C
Minimum installation temperature	–60°C

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Magnesium Oxide (MgO)
Material of outer sheath	Depending on design

Technical Data	
Maximum operating voltage	300/500 Vac
Maximum operating temperature	1000°C

Options

Vacuum feedthrough of different style for heater and sensor connection; the length of the cold lead, the number of wires and optional vacuum feedthrough can be designed to customer requirements in terms of space, temperature and electrical needs.

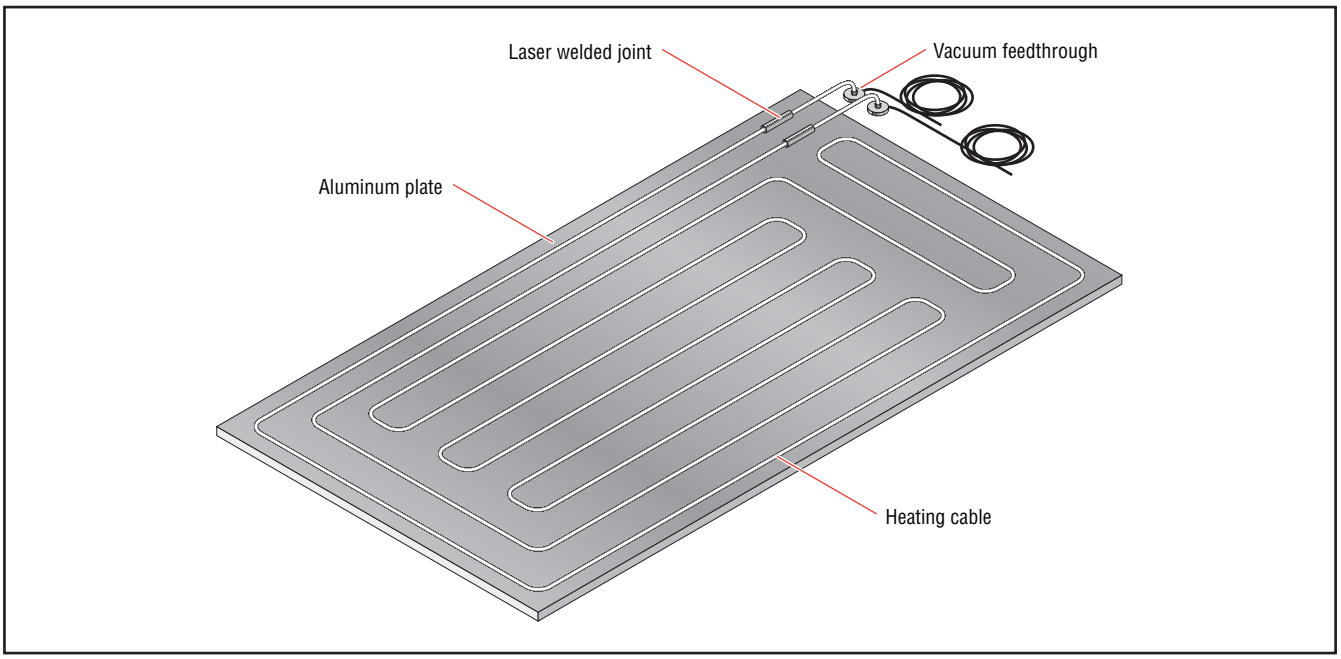
Isopad platen heater

Isopad platen heaters (IPH) have been designed to blend the benefits of an electric radiant heat source and the design requirements of press plates. Due to a uniform heat density they are ideally suited to coating and lamination processes and have been widely adopted in high quality applications such as solar panel manufacture.

At the core is a mineral insulated (MI) heating cable which can supply temperatures up-to 1000°C, the MI heating cable is manufactured into a hermetically sealed heating element utilising laser welding technology, formed to deliver optimum heat density then fully encapsulated in a metallic platen ready for use.

The long element lengths made possible by MI cables minimise the number of vacuum feedthroughs required thus reducing the number of failure modes in the final assembly. Additional reliability is achieved using multiple temperature sensors with the option of fully integrated and vacuum tested power and sensor feedthroughs.

Thermocoax can provide a customised platen heater to specific customer design requirements or engineer from a simple design outline.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP68
Electrical protection class	Class I
Maximum withstand temperature (power off)	1000°C
Minimum installation temperature	–60°C

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Magnesium oxide (MgO)
Material of outer sheath	Depending on design

Technical Data	
Maximum operating voltage	300/500 Vac
Maximum operating temperature	1000°C (depending on plate material)

Options

Vacuum feedthrough of different style for heater and sensor connection; the length of the cold lead, the number of wires and optional vacuum feedthrough can be designed to customer requirements in terms of space, temperature and electrical needs.

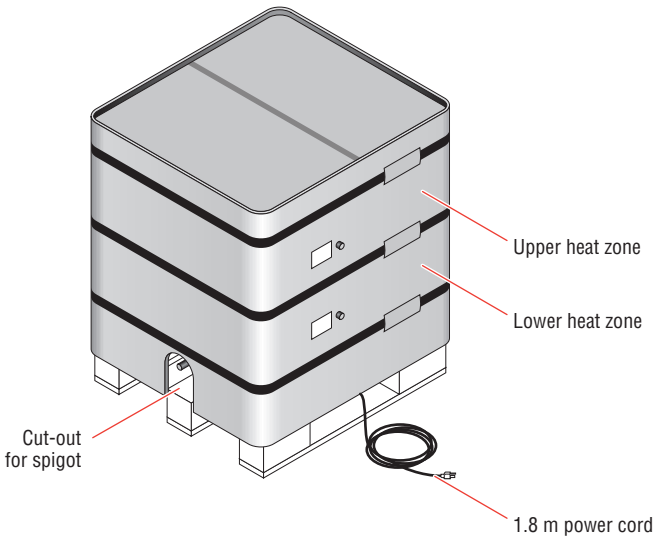
IIBC-G

D100
0AT0
011A

Soft jacket IBC heater

Isopad IIBC-G soft jacket heater fits several IBC and tote tank sizes with adjustable nylon straps and buckles. Controls temperature with adjustable thermostats. Protects contents and tote tank surface from heat damage with manual reset highlimit safety thermostats.

Designed for caged, plastic, or metal tote tanks/IBCs. The wrap-around blanket design allows you to heat a tote tank/IBC externally without changing the IBC or tote tank. Fits containers with width from 1016 x 1016 mm to 1219 x 1219 mm. Does not contaminate or scorch your product. Fitted using adjustable nylon straps with buckles. An optional top cover is available to reduce heat loss and accelerate heat-up. Built-in adjustable thermostats allow you to control the temperature, and two separate heat zones allow you to adjust heater output when content levels are lower.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP51
Electrical protection class	Class I
Voltage	240 Vac power cord 1.8 m
Power output	2880 W
Temperature range	10 to 71°C, built-in thermal cut-out set at 91°C for each heat zone

Heater Construction	
Material	Silicone-impregnated cloth facing and liner
Insulation	6 mm fibreglass insulation

Ordering Information

Part number	Product description	Height (mm)	Minimum tank perimeter (mm)	Maximum tank perimeter (mm)	Wattage at 240 Vac (W)	Weight (kg)
1235-99840013	IIBC-G/914MM/240V/2880W	914	4064	4877	2880	15
1235-99840014	IIBC-G/1067MM/240V/2880W	1067	4064	4877	2880	18

Ordering Information

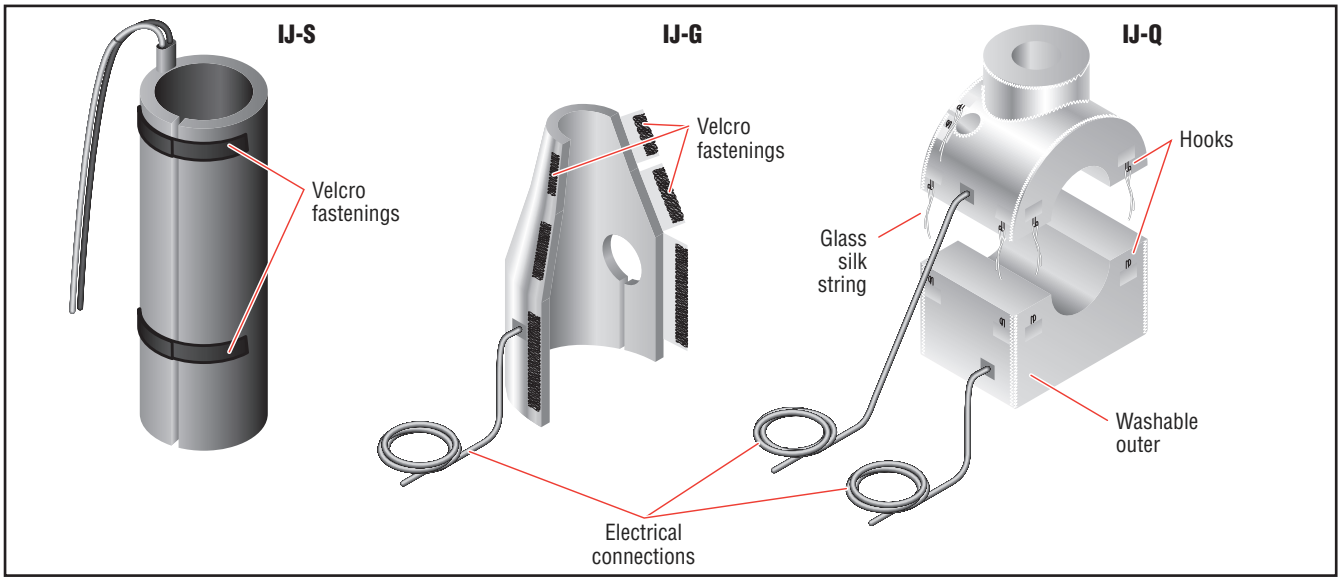
1235-99840015	IIBC-G/1220MM/240V/2880W	1220	4064	4877	2880	21

Accessories

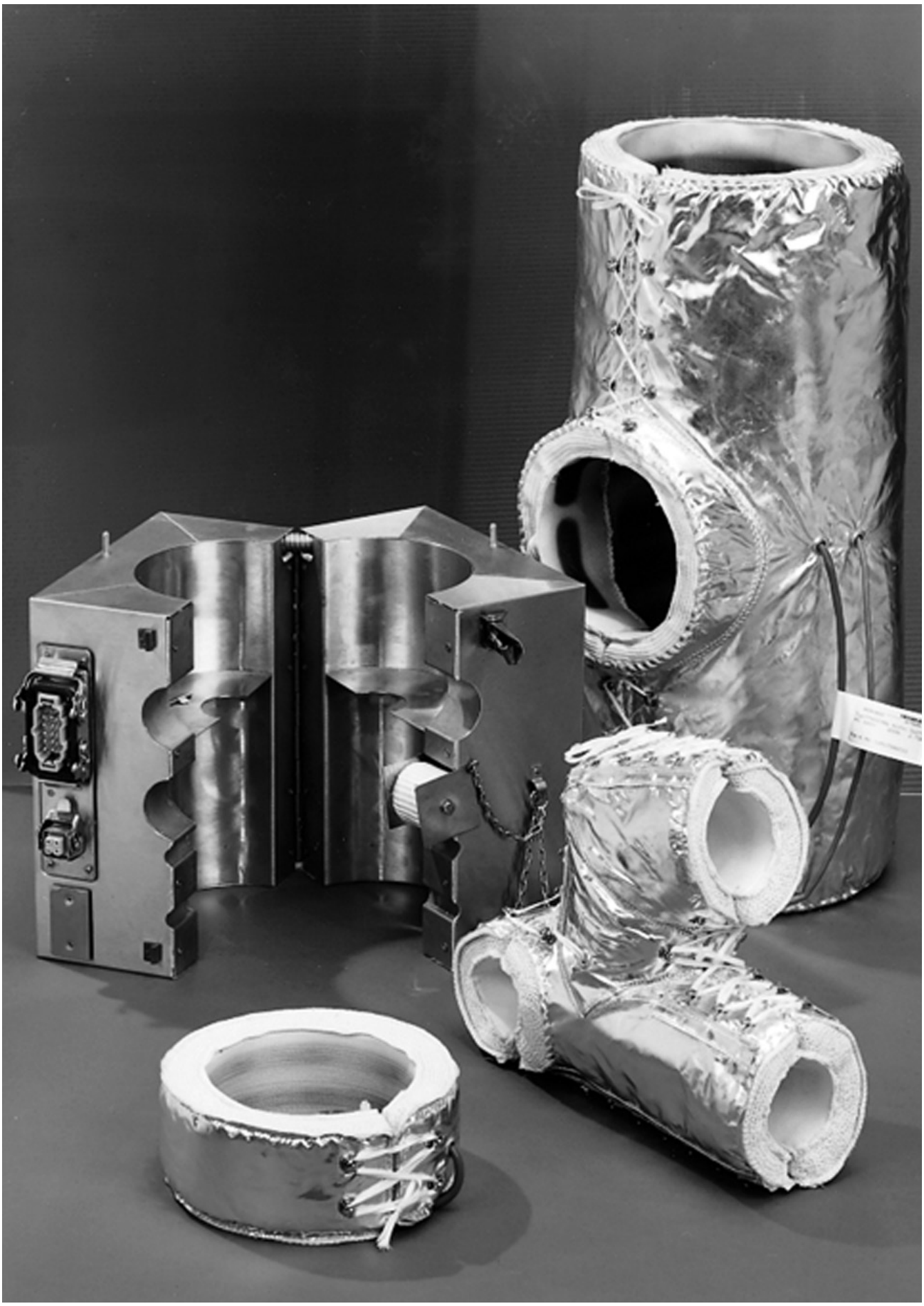
Part number	Description
1235-99840016	IIBC-G/Insulated top cover

Heating jackets

In our jacket heaters there are three components: a heater, the insulation for that heater, and the carrier for that assembly. The outer carriers on these versions may be washable. Different shapes are manufactured to customer requirements and many attachment and fixing methods are available. A small number of jacket versions are available with hazardous area approval.



	IJ-S	IJ-G	IJ-Q
Area Specifications			
Area classification	Nonhazardous, ordinary area	Nonhazardous, ordinary area	Nonhazardous, ordinary area
Ingress protection	IP65	IP20	IP20
Electrical protection class	Class II; Class I with metal sheath	See note	See note
Maximum withstand temperature (power off)	200°C	450°C	900°C
Note: These are components for further installation. The protective arrangements of Protection Class I or Class II must be followed during installation of the components and are the responsibility of the assembly company. Please refer to the manual for further information.			
Heater Construction			
Type	Resistance heating cable	Resistance heating cable	Resistance heating cable
Material	Various alloys	Various alloys	Various alloys
Material of insulation	Depending on design	Depending on design	Quartz-glass
Material of outer sheath	Silicone	Glass-silk with PTFE, Silicone or Aluminium coating	Quartz-glass
Thickness of thermal insulation	6 to 12 mm	10 to 100 mm	10 to 100 mm
Temperature Control			
Sensor type	PT100, Fe-CuNi/J or NiCr-Ni/K acc. to DIN	PT100, Fe-CuNi/J or NiCr-Ni/K acc. to DIN	NiCr-Ni Type K
Technical Data			
Frequency	50-60 Hz	50-60 Hz	50-60 Hz
Maximum operating voltage	400 Vac	240 Vac	240 Vac
Maximum area load	0.7 W/cm²	1.5 W/cm²	3.6 W/cm²



IHH-ST1A/ST1D
Previously IHH-100

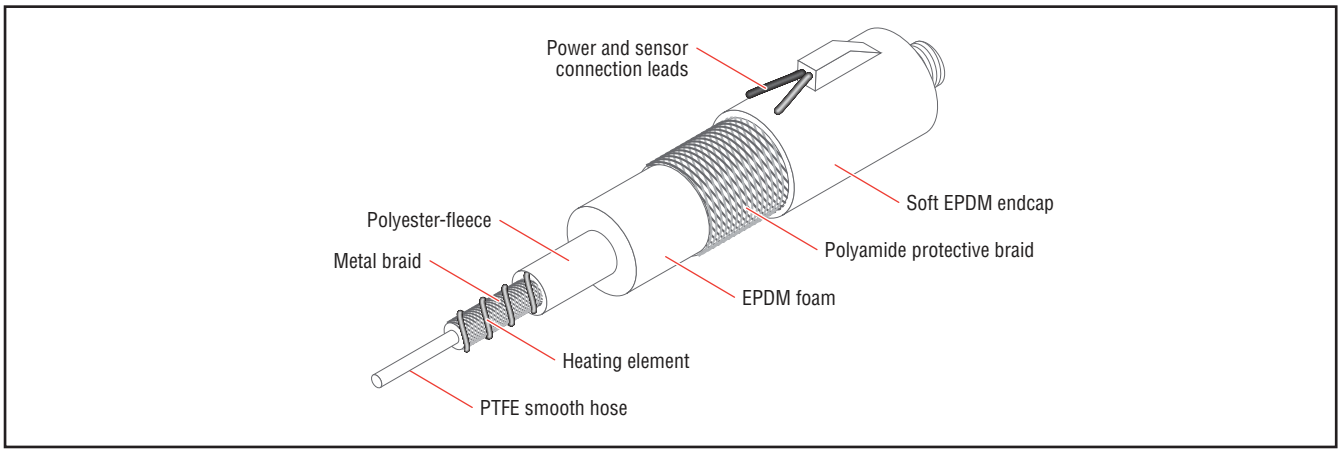
D100
0AT0
011A

Heated hose, standard range for liquid and gaseous media

Isopad IHH-ST1A/ST1D is a flexible heated hose for liquid and gaseous media with a maximum operating temperature of 100°C. The standard versions have smooth PTFE inner hose constructions with stainless steel braiding for pressurized operation. The thermal insulation consists of polyester fleece and ethylene propylene diene monomer (EPDM) foam.

Mechanical protection is provided by a polyamide braid and soft EPDM endcaps. Built-in Pt100 sensors provide optimum temperature control for the medium. The evenly wrapped resistance heating cable allows an homogeneous heat distribution throughout the hose.

The standard versions can be used for a wide range of applications. Special designs are available on request with focus on the performance level and/or environmental influences. See our list of options for your desired design on page 3.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP54
Electrical protection class	Class I
Maximum withstand temperature (power off)	100°C
Ambient temperature range	–20 to +40°C

Standard Manufacturing Sizes	
Length	Up to 19 m[(1)]
Tolerances	According to DIN 20066
Nominal width	4, 6, 8, 10, 13 mm

[(1)] Available in steps of 0.1 m

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE
Material of outer sheath	Copper-nickel braid
Carrier	Stainless steel braid
Inner hose	Smooth PTFE hose
Fittings	AGR or DKR according to ISO 228/1
Fitting material	Galvanized steel
Thermal fabric fibre insulation	Polyester-fleece of 4 to 5 mm thickness

Heater Construction	
Thermal foam insulation	EPDM of 9 to 11 mm thickness
Outer protection	Polyamide braid

Lead Connection	
Connection length	1.5 m
Cross section	Depending on design
Maximum operating temperature	180°C
Insulation material	Silicone

Temperature Control	
Sensor type	Pt100 two-wire DIN Class B
Sensor lead length	1.5 m
Lead cross section	Depending on design
Maximum operating temperature	180°C
Sensor lead material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	120 or 230 Vac
Nominal power	Depending on design
Power per meter	Maximum 110 W/m (see performance table)
Minimum insulation resistance	100 MΩ
Maximum operating temperature	100°C
Maximum operating pressure	See performance table
Minimum bend radius	See performance table

Performance Table

Nominal diameter		Power (W/m)	Maximum static pressure (bars)		Minimum bend radius (mm)	
Code	mm	at 100°C	at 20°C	at 100°C	Static	Dynamic(1)
1	4	70	250	238	100	200
2	6	80	240	228	150	300
3	8	90	200	190	200	400
4	10	100	175	166	140	480
5	13	110	150	143	270	540

(1)Dynamic performance represents two dimensional single piston stroke per second (1 Hz) with compressed air (medium) 6 bars at 100°C operating and 20°C ambient temperature. Dynamic performance of heated hoses is recommended to be tested for each individual application.

Ordering Information - Part Number Configurator (for standard versions only, not applicable for special versions)

1235 - 71 2 1 2 010

Connection

1 = DKR swivel female with union nut ISO 228/1

2 = AGR male nipple with thread ISO 228/1

Nominal diameter

See code in performance table on previous page

Length

Metric length in multiples of 0.1 m

e.g. 0.5 m = 005, 6.3 m = 063, 11.8 m = 118

Voltage

1 = 120 Vac nominal single phase

2 = 230 Vac nominal single phase

Example: 1 m heated hose, 4 mm nominal diameter, 230 V supply voltage, AGR connection
Part Number: 1235-71212010

Options for Special Versions

If your requirements are not met by the above specifications, we can tailor-make a heated hose to suit you. Variations depend on design and can include:

- Other nominal sizes and inner hoses, e.g. supplied components for individual heating
- Sizes up to 120 m
- Sensor types, e.g. thermocouples Type K, Type J, etc.
- Supply voltage up to 400 V, single-phase or three-phase
- Higher power outputs
- Increased ingress protection, e.g. IP65 for outdoor applications
- Increased pressure resistance, up to 475 bar at 100°C (depending on nominal diameter)
- Other materials, e.g. for applications recommending silicone free production
- Approved components for the use in hazardous areas according to IECEx and ATEX
- Replaceable inner hoses for nonpressurized gas analysis
- Premounted plugs and special supply and messenger leads
- Controlling devices and high temperature lock-out thermostats

IHH-ST2A/ST2D
Previously IHH-200

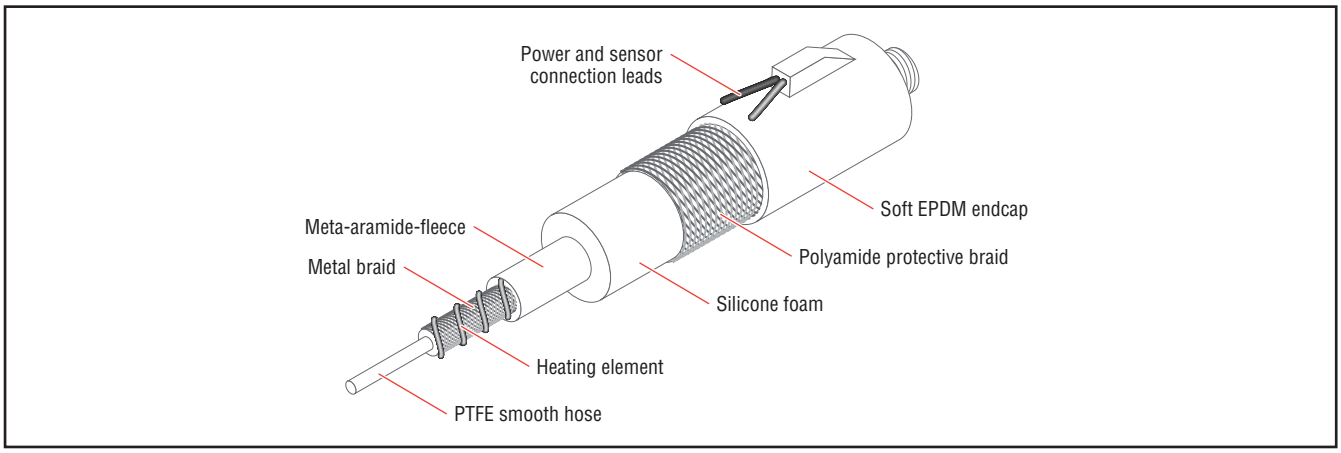
D100
0AT0
011A

Heated hose, standard range for liquid and gaseous media

Isopad IHH-ST2A/ST2D is a flexible heated hose for liquid and gaseous media with a maximum operating temperature of 200°C. The standard versions have smooth PTFE inner hose constructions with stainless steel braiding for pressurized operation. The thermal insulation consists of meta-aramide fleece and silicone foam.

Mechanical protection is provided by a polyamide braid and soft ethylene propylene diene monomer (EPDM) endcaps. Built-in Pt100 sensors provide optimum temperature control for the medium. The evenly wrapped resistance heating cable allows an homogeneous heat distribution throughout the hose.

The standard versions can be used for a wide range of applications. Special designs are available on request with focus on the performance level and/or environmental influences. See our list of options for your desired design on page 3.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP54
Electrical protection class	Class I
Maximum withstand temperature (power off)	200°C
Ambient temperature range	–20 to +40°C

Standard Manufacturing Sizes	
Length	Up to 19 m[1]
Tolerances	According to DIN 20066
Nominal width	4, 6, 8, 10, 13 mm

[1] Available in steps of 0.1 m

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	PTFE
Material of outer sheath	Copper-nickel braid
Carrier	Stainless steel braid
Inner hose	Smooth PTFE hose
Fittings	AGR or DKR according to ISO 228/1
Fitting material	Galvanized steel
Thermal fabric fibre insulation	Meta-aramide-fleece of 4 to 5 mm thickness

Heater Construction	
Thermal foam insulation	Silicone of 9 to 11 mm thickness
Outer protection	Polyamide braid

Lead Connection	
Connection length	1.5 m
Cross section	Depending on design
Maximum operating temperature	180°C
Insulation material	Silicone

Temperature Control	
Sensor type	Pt100 two-wire DIN Class B
Sensor lead length	1.5 m
Lead cross section	Depending on design
Maximum operating temperature	180°C
Sensor lead material	Silicone

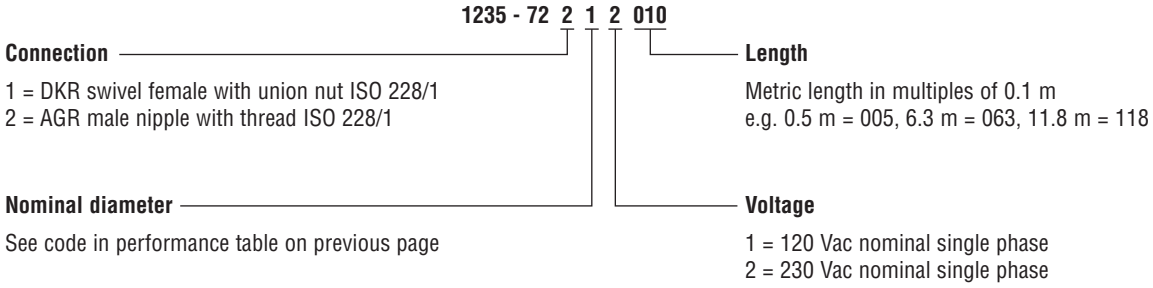
Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	120 or 230 Vac
Nominal power	Depending on design
Power per meter	Maximum 140 W/m (see performance table)
Minimum insulation resistance	100 MΩ
Maximum operating temperature	200°C
Maximum operating pressure	See performance table
Minimum bend radius	See performance table

Performance Table

Nominal diameter		Power (W/m)	Maximum static pressure (bars)		Minimum bend radius (mm)	
Code	mm	at 200°C	at 20°C	at 200°C	Static	Dynamic(1)
1	4	90	250	208	100	200
2	6	100	240	199	150	300
3	8	110	200	166	200	400
4	10	120	175	145	140	480
5	13	140	150	125	270	540

(1)Dynamic performance represents two dimensional single piston stroke per second (1 Hz) with compressed air (medium) 6 bars at 100°C operating and 20°C ambient temperature. Dynamic performance of heated hoses is recommended to be tested for each individual application.

Ordering Information - Part Number Configurator (for standard versions only, not applicable for special versions)



Example: 1 m heated hose, 4 mm nominal diameter, 230 V supply voltage, AGR connection
Part Number: 1235-72212010

Options for Special Versions

If your requirements are not met by the above specifications, we can tailor-make a heated hose to suit you. Variations depend on design and can include:

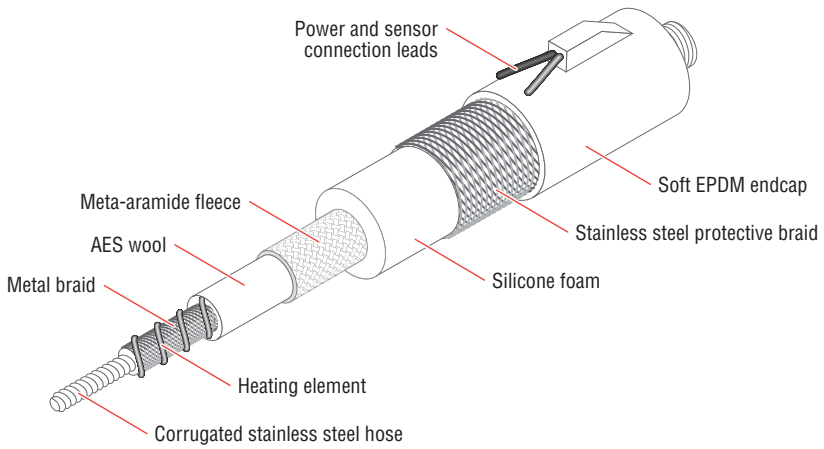
- Other nominal sizes and inner hoses, e.g. supplied components for individual heating
- Sizes up to 120 m
- Sensor types, e.g. thermocouples Type K, Type J, etc.
- Supply voltage up to 400 V, single-phase or three-phase
- Higher power outputs
- Increased ingress protection, e.g. IP65 for outdoor applications
- Increased pressure resistance, up to 415 bar at 200°C (depending on nominal diameter)
- Other materials, e.g. for applications recommending silicone free production
- Approved components for the use in hazardous areas according to IECEx and ATEX
- Replaceable inner hoses for nonpressurized gas analysis
- Premounted plugs and special supply and messenger leads
- Controlling devices and high temperature lock-out thermostats

Heated hose, standard range for liquid and gaseous media

Isopad IHH-ST4A/ST4D is a flexible heated hose for liquid and gaseous media with a maximum operating temperature of 400°C. The standard versions have corrugated stainless steel inner hose constructions with stainless steel braiding for pressurized operation. The thermal insulation consists of high temperature fleece and silicone foam.

Mechanical protection is provided by a stainless steel braid and soft ethylene propylene diene monomer (EPDM) endcaps. Built-in Pt100 sensors provide optimum temperature control for the medium. The evenly wrapped resistance heating cable allows an homogeneous heat distribution throughout the hose.

The standard versions can be used for a wide range of applications. Special designs are available on request with focus on the performance level and/or environmental influences. See our list of options for your desired design on page 3.



Area Specifications	
Area classification	Nonhazardous, ordinary area
Ingress protection	IP54
Electrical protection class	Class I
Maximum withstand temperature (power off)	400°C
Ambient temperature range	–20 to +40°C

Standard Manufacturing Sizes	
Length	Up to 19 m[(1)]
Tolerances	According to DIN 20066
Nominal width	6, 8, 10, 13 mm

[(1)] Available in steps of 0.1 m

Heater Construction	
Type	Resistance heating cable
Material	Various alloys
Material of insulation	Glass-silk
Material of outer sheath	Woven glass-silk
Carrier	Stainless steel braid
Inner hose	Corrugated stainless steel hose
Fittings	AGR or DKR according to ISO 228/1

Heater Construction	
Fitting material	Stainless steel
Thermal fabric fibre insulation	Meta-aramide-fleece + AES-wool of 8 to 12 mm thickness
Thermal foam insulation	Silicone of 9 to 11 mm thickness
Outer protection	Stainless steel braid

Lead Connection	
Connection length	1.5 m
Cross section	Depending on design
Maximum operating temperature	180°C
Insulation material	Silicone

Temperature Control	
Sensor type	Pt100 two-wire DIN Class B
Sensor lead length	1.5 m
Lead cross section	Depending on design
Maximum operating temperature	180°C
Sensor lead material	Silicone

Technical Data	
Frequency	50-60 Hz
Nominal operating voltage	120 or 230 Vac
Nominal power	Depending on design
Power per meter	Maximum 150 W/m (see performance table)
Minimum insulation resistance	100 MΩ
Maximum operating temperature	400°C
Maximum operating pressure	See performance table
Minimum bend radius	See performance table

Performance Table

Nominal diameter		Power (W/m)	Maximum static pressure (bars)		Minimum bend radius (mm)	
Code	mm	at 400°C	at 20°C	at 400°C	Static	Dynamic(1)
2	6	120	125	62	50	160
3	8	130	125	62	65	250
4	10	140	100	50	75	260
5	13	150	85	42	90	280

(1)Dynamic performance represents two dimensional single piston stroke per second (1 Hz) with compressed air (medium) 6 bars at 100°C operating and 20°C ambient temperature. Dynamic performance of heated hoses is recommended to be tested for each individual application.

Ordering Information - Part Number Configurator (for standard versions only, not applicable for special versions)

1235 - 74 2 1 2 010

Connection

1 = DKR swivel female with union nut ISO 228/1
2 = AGR male nipple with thread ISO 228/1

Length

Metric length in multiples of 0.1 m
e.g. 0.5 m = 005, 6.3 m = 063, 11.8 m = 118

Nominal diameter

See code in performance table on previous page

Voltage

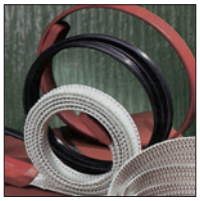
1 = 120 Vac nominal single phase
2 = 230 Vac nominal single phase

Example: 1 m heated hose, 4 mm nominal diameter, 230 V supply voltage, AGR connection
Part Number: 1235-74212010

Options for Special Versions

If your requirements are not met by the above specifications, we can tailor-make a heated hose to suit you. Variations depend on design and can include:

- Other nominal sizes and inner hoses, e.g. supplied components for individual heating
- Sizes up to 120 m
- Sensor types, e.g. thermocouples Type K, Type J, etc.
- Supply voltage up to 400 V, single-phase or three-phase
- Higher power outputs
- Increased ingress protection e.g IP65 for outdoor applications
- Increased pressure resistance
- Other materials eg. for applications recommending silicone free production
- Replaceable inner hoses for nonpressurized gas analysis
- Premounted plugs and special supply and messenger leads
- Controlling devices and high temperature lock-out thermostats



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