Sinus Jevi
Band Heaters

Band heaters are elements with different diameters and heights, designed to heat and to maintain the temperature of cylindrical parts.
Heat transfer is usely achieved by conduction or by radiation for high power heaters. They are suitable for solid heating as well as for liquids or gases heating.

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Liquids Gasses Solids Spaces Resistors

Sinus-Jevi Electric Heating B.V. Aambeeld 19 1671 NT Medemblik +31 (0) 227 549 100 www.sinusjevi.com

INHOUDSOPGAVE:

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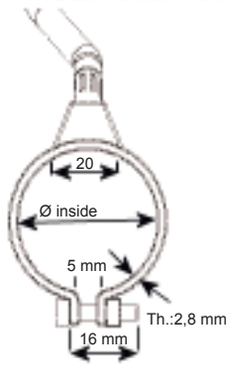
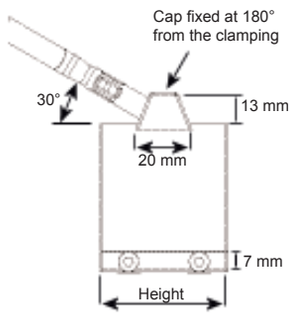
Encapsulated Sealed Nozzle Heaters

- Max. Watt density over the surface of the heater: 6,5W/cm²
- Max. operating temperature over the surface of the heater: 340°C, depending on working conditions.
- Diameter: 25 to 100 mm
  Height: 25 to 80 mm
  Wattage: 65 to 970 Watt, 230 Volt single phase
- Sealed band heater in brass, with folded ends.
  Band heater connection, waterproof technology.
- Electric insulation by mica plate.
- Connection: nickel core, fiberglass insulated + earth wire; protected by a galvanized steel braid.
- Connection cap: axial 30°, centred on the height of the band heater, up to 38 mm height. Over 38 mm height, it is placed at 20 mm from the edge. (See sketch). (Except L2570C26G10*)
- Square angle flange clamping, screw BTR M4, self-locking square nuts.
- Our products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current <0.75 mA/kW
- • Special manufactures:
  - Sealed stainless steel nozzle heater (see picture on next page).
  - Max. watt density: 5 W/cm².
  - Specific sealed nozzle heaters, see page 6.
  - Accessories and options, see page 13.
  - How to define a special band heater: see page 19.

- Dimensions of a standard insulated mica nozzle heater:





To each diameter of band heater corresponds a clamping capacity. For instance, a band heater with a diameter of 30 mm can be fitted on a nozzle of 30 mm to 31 mm.
In charts below, the diameter of a band heater is written in green and below it, its clamping capacity is written in black between brackets.

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
25 (25 to 26)	20	65	500	L2520C6A5
	25	85	500	L2525C8A5
	30	105	500	L2530C10A5
	35	125	500	L2535C12A5
	38	145	500	L2538C14A5
	70	260	1000	L2570C26G10*
26 (26 to 27)	30	115	500	L2630C11A5
	35	135	500	L2635C13A5
		135	1000	L2635C13A10
28 (28 to 29)	20	75	500	L2820C7A5
		75	1000	L2820C7A10
		75	2000	L2820C7A20
	25	100	500	L2825C10A5
	30	125	500	L2830C12A5
		125	1000	L2830C12A10
	35	150	500	L2835C15A5
	38	170	500	L2838C17A5
	50	220	500	L2850C22A5
30 (30 to 31)	20	85	500	L3020C8A5
	25	110	500	L3025C11A5
		110	1500	L3025C11A15
	30	135	500	L3030C13A5
		135	1000	L3030C13A10
		135	1500	L3030C13A15
	35	160	500	L3035C16A5
		160	1000	L3035C16A10
	38	185	500	L3038C18A5

Diameter Ø [mm]	Height [mm]	Watt (W)	Braid L(mm)	Article number
30 (30 to 31)	38	185	1000	L3038C18A10
	50	235	500	L3050C23A5
		235	1000	L3050C23A10
	60	285	500	L3060C28A5
		285	1000	L3060C28A10
	65	310	500	L3065C31A5
32 (31 to 32)	20	90	500	L3220C9A5
	25	115	500	L3225C11A5
	30	145	500	L3230C14A5
		145	1000	L3230C14A10
		200	2000	L3230C20A20
	35	170	500	L3235C17A5
	38	195	500	L3238C19A5
		195	1000	L3238C19A10
		195	2000	L3238C19A20
	50	250	500	L3250C25A5
	60	300	500	L3260C30A5
		300	2000	L3260C30A20
34 (34 to 35)	20	95	500	L3420C9A5
	25	125	500	L3425C12A5
		125	1000	L3525C12A10
		125	1500	L3425C12A15
	30	155	500	L3430C15A5
		155	1000	L3430C15A10
	35	180	500	L3435C18A5
		180	2000	L3435C18A20
	38	185	2000	L3438C18A20
		210	500	L3438C21A5

Diameter Ø [mm]	Height [mm]	Watt (W)	Braid L(mm)	Article number
34 (34 to 35)	50	265	500	L3450C26A5
	60	325	1000	L3460C32A10
38 (38 to 39)	25	140	500	L3825C14A5
	30	170	500	L3830C17A5
	35	200	500	L3835C20A5
	38	235	500	L3838C23A5
40 (40 to 41)	20	125	500	L4020C12A5
		125	1000	L4020C12A10
		125	1500	L4020C12A15
		125	2000	L4020C12A20
	25	160	500	L4025C16A5
		160	1000	L4025C16A10
		160	1500	L4025C16A15
	30	200	500	L4030C20A5
		200	1000	L4030C20A10
		200	2000	L4030C20A20
	35	235	500	L4035C23A5
		235	1000	L4035C23A10
		235	1500	L4035C23A15
		235	2000	L4035C23A20
	38	200	500	L4038C20A5
		270	500	L4038C27A5
		270	1000	L4038C27A10
		270	1500	L4038C27A15
		270	2000	L4038C27A20
	45	305	500	L4045C30A5
		305	1000	L4045C30A10
		305	1500	L4045C30A15

* Cap off center at 0 mm from the edge of the band heater. One end of the clamping tab is bevel-edged at 45° t.

Encapsulated Sealed Nozzle Heaters

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
40 (40 to 41)	45	305	2000	L4045C30A20
	50	345	500	L4050C34A5
		345	1000	L4050C34A10
		345	2000	L4050C34A20
	55	380	1000	L4055C38A10
		380	2000	L4055C38A20
	60	415	500	L4060C41A5
		415	1000	L4060C41A10
		415	1500	L4060C41A15
		415	2000	L4060C41A20
	65	430	500	L4065C43A5
	70	450	500	L4070C45A5
		450	2000	L4070C45A20
42 (42 to 43)	25	155	500	L4225C15A5
	30	190	500	L4230C19A5
	38	260	500	L4238C26A5
	50	330	500	L4250C33A5
		330	2000	L4250C33A20
44 (44 to 45)	20	125	500	L4420C12A5
	25	160	500	L4425C16A5
	30	200	500	L4430C20A5
		200	1000	L4430C20A10
		200	1500	L4430C20A15
	35	235	500	L4435C23A5
	38	270	1000	L4438C27A10
		300	500	L4438C30A5
	45	310	500	L4445C31A5
		310	1000	L4445C31A10
		310	1500	L4445C31A15
	50	345	500	L4450C34A5
		345	1000	L4450C34A10
	55	385	500	L4455C38A5
	60	420	500	L4460C42A5
48 (48 to 49)	20	135	1000	L4820C13A10
	25	180	500	L4825C18A5
		180	2000	L4825C18A20
	30	220	1000	L4830C22A10
	38	300	2000	L4838C30A20
50 (50 to 51)	20	140	500	L5020C14A5
	25	185	500	L5025C18A5
		185	1000	L5025C18A10

Diameter Ø [mm]	Height [mm]	Watt (W)	Braid L(mm)	Article number
50 (50 to 51)	30	225	500	L5030C22A5
		225	1000	L5030C22A10
		225	2000	L5030C22A20
	35	270	500	L5035C27A5
		270	1000	L5035C27A10
	38	310	500	L5038C31A5
		310	1000	L5038C31A10
		310	1500	L5038C31A15
		310	2000	L5038C31A20
	45	350	500	L5045C35A5
	50	390	500	L5050C39A5
		390	1000	L5050C39A10
	60	475	500	L5060C47A5
		475	1000	L5060C47A10
		475	2000	L5060C47A20
	65	510	500	L5065C51A5
	70	560	500	L5070C56A5
	75	600	2000	L5075C60A20
54 (54 to 55)	25	200	500	L5425C20A5
		200	1000	L5425C20A10
	30	245	500	L5430C24A5
		245	1000	L5430C24A10
	38	335	500	L5438C33A5
		335	2000	L5438C33A20
	45	380	500	L5445C38A5
56 (56 to 57)	38	350	500	L5638C35A5
58 (58 to 59)	38	360	500	L5838C36A5
60 (60 to 61)	20	170	1000	L6020C17A10
		250	500	L6020C25A5
	25	220	500	L6025C22A5
	30	275	500	L6030C27A5
		275	1000	L6030C27A10
		275	1500	L6030C27A15
		325	2000	L6030C32A20
	35	325	500	L6035C32A5
		325	1500	L6035C32A15
	38	375	500	L6038C37A5
		375	1000	L6038C37A10
		375	1500	L6038C37A15
	45	425	500	L6045C42A5

Diameter Ø [mm]	Height [mm]	Watt (W)	Braid L(mm)	Article number
60 (60 to 61)	45	425	2000	L6045C42A20
	50	475	500	L6050C47A5
		475	1000	L6050C47A10
	55	525	500	L6055C52A5
	60	575	500	L6060C57A5
	65	625	500	L6065C62A5
	80	780	500	L6080C78A5
64 (64 to 65)	20	185	500	L6420C18A5
	25	240	500	L6425C24A5
	38	400	1500	L6438C40A15
	45	455	500	L6445C45A5
68 (68 to 69)	30	310	500	L6830C31A5
70 (70 to 71)	30	320	500	L7030C32A5
		320	1000	L7030C32A10
	35	380	500	L7035C38A5
	38	440	500	L7038C44A5
		440	1000	L7038C44A10
		440	1500	L7038C44A15
		550	1500	L7038C55A15
	45	500	500	L7045C50A5
	50	560	500	L7050C56A5
	65	730	500	L7065C73A5
	70	785	500	L7070C78A5
72 (72 to 73)	30	330	1000	L7230C33A10
74 (74 to 75)	30	340	1000	L7430C34A10
	50	590	500	L7450C59A5
80 (80 to 81)	30	365	500	L8030C36A5
	35	435	2000	L8035C43A20
	38	500	500	L8038C50A5
		500	1000	L8038C50A10
	45	570	500	L8045C57A5
	50	630	500	L8050C63A5
		630	1000	L8050C63A10
90 (90 to 91)	30	415	1000	L9030C41A10
	45	645	1000	L9045C64A10
	60	875	500	L9060C87A5
94 (94 to 95)	55	830	1000	L9455C83A10
100 (100 to 101)	30	460	500	L10030C46A5
	60	970	500	L10060C97A5
		970	1000	L10060C97A10

Stainless steel sealed nozzle heater
(Special manufacture)

Sealed nozzle heater, in brass

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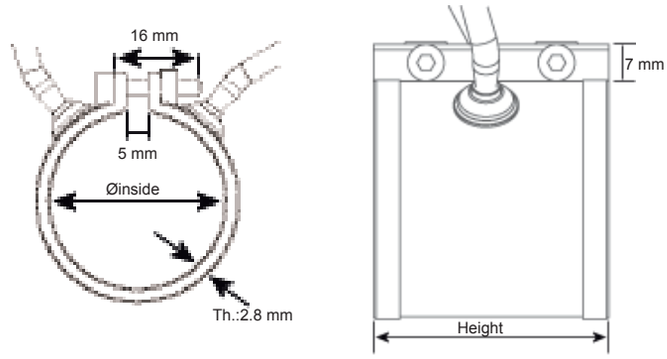
Standard Mica Band Heaters

- Max. watt density over the surface of the heater: 5 W/cm²
- Max. operating temperature over the surface of the heater: 340°C, depending on working conditions.
- Available in 2 versions:
  - wire connection: wiring with a large bending radius, nevertheless quite fragile.
  - metal braid connection, embossed exit: appreciated for its low profile.
- Nickel core, fiberglass insulated + earth wire.
  For the model with embossement connection, the wires are protected with a galvanised steel braid.
- Voltage: 230 V single phase.
- Electric insulation with mica plates.
- Square angle flange, screw CHC M4 and square nuts.
- Products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current <0.75mA/kW

° Dimensions of a standard insulated mica nozzle



To each diameter of heater corresponds a clamping capacity. For instance, a heater with a diameter of 30 mm can be fitted on a nozzle with a diameter of 30 mm or 31 mm.
In charts below, the diameter of a band heater is written in green and below it, its clamping capacity, is written in black between brackets.

- Special manufactures:
  - Specific sizes of heaters, not standard, see page 5.
  - Accessories and options see page 13.
  - How to define a special band heater, see page 19.

WIRE CONNECTION

Diameter: 25 to 60 mm
Height: 20 to 80 mm
Wattage: 85 to 515 Watt

Outside sheet in aluminized steel.
Connection with ceramic beads to avoid eventual pulling of the wires, Ø12 mm, 4 mm height.
Wiring centred over the height of the heater.

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
25 (25 to 26)	35	125	500	A2535C12A5
		125	1300	A2535C12A13
30 (30 to 31)	20	85	500	A3020C8A5
	30	135	500	A3030C13A5
	38	185	500	A3038C18A5
	50	235	3000	A3050C23A30
	60	285	3000	A3060C28A30
	70	315	3000	A3070C31A30
32 (32 to 33)	38	195	500	A3238C19A5
34 (34 to 35)	35	180	500	A3435C18A5

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
38 (38 to 39)	38	235	1300	A3838C23A13
	50	300	1300	A3850C30A13
40 (40 to 41)	20	125	1500	A4020C12A15
	30	200	3000	A4030C20A30
	35	235	1500	A4035C23A15
	38	200	500	A4038C20A5
		270	500	A4038C27A5
		270	1300	A4038C27A13
		270	3000	A4038C27A30
	45	305	1000	A4045C30A10
	50	345	1300	A4050C34A13
		345	3000	A4050C34A30
	55	380	1000	A4055C38A10
	60	415	3000	A4060C41A30
	70	375	500	A4070C37A5

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
40 (40 to 41)	80	515	3000	A4080C51A30
		515	4000	A4080C51A40
44 (44 to 45)	38	300	500	A4438C30A5
	60	420	3000	
48 (48 to 49)	70	500	2000	A4870C50A20
50 (50 to 51)	50	390	500	A5050C39A5
		390	1500	A5050C39A5
	80	450	500	A5080C45A5
60 (60 to 61)	38	375	500	A6038C37A5
	50	300	1500	A6050C30A15
	60	450	1500	A6060C45A15

BRAID CONNECTION, WITH EMBOSSEMENT

- Standard heaters:

Diameter: 25 to 60 mm
Height: 20 to 80 mm
Wattage: 85 to 515 Watt

- Outside sheet in brass
- Embossement connection, wire + braid, low profile, 12 mm Ø, 5 mm height. Exit located at 16 mm from the edge.

Diameter Ø (mm)	Height (mm)	Watt (W)	Braid L(mm)	Article number
30 (30 to 31)	32	135	500	B3032C13A5
32 (32 to 33)	32	145	1000	B3232C14A10
	38	185	500	B3238C18A5
	60	300	1000	B3260C30A10
40 (40 tot41)	32	260	500	B4032C26A5
	38	250	4000	B4038C25A40
	60	375	4000	B4060C37A40
	80	270	500	B4080C27A5
		500	4000	B4080C50A40
50 (50 to 51)	60	300	1000	B5060C30A10

Dimensions of the above heaters with wire connection, are also available with braid and embossement connection. Except heaters with heights smaller than 32 mm.

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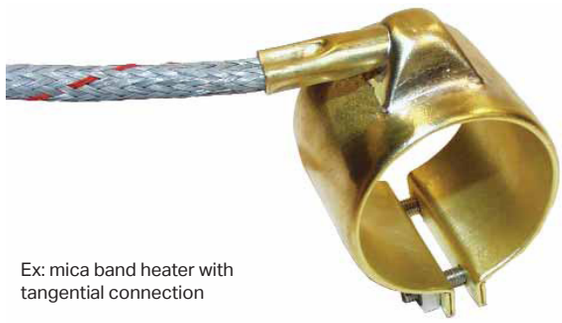
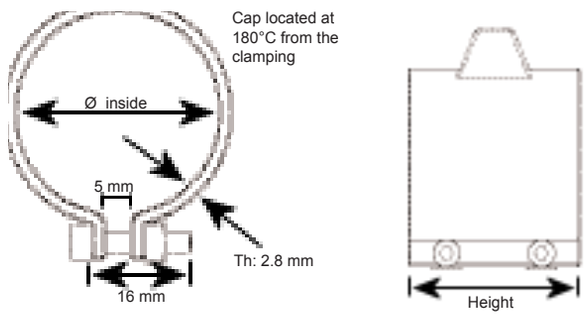
Special Sealed Mica Nozzle Heaters

- Specific products, designed as a complement of standard sealed nozzle heaters, see page 3.
- Max. watt density over the surface of the heater: 6.5 W/cm²
- Max. temp over the surface of the heater: 340°C, depending on working conditions.
- Available specific items are listed in the chart below.
  Diameter: 25 to 100 mm
  Height: 20 to 90 mm
  Wattage: 70 to 1480 W, voltage: 230 V single phase.
- Manufacture of specific items not listed the charts below is subject to a feasability and compatibility study based on current, watt density and sizes of the required heater.
  Other voltages on request: 12 V to 400 V, with a maximum current of 7.5 A.
- Brass sheath, with folded ends.
- Electric insulation with mica.
- Wiring: nickel core, fiberglass silicone insulated + earth wire, protected with a galvanised steel braid.
  Standard leads: 500, 800, 1000, 1300, 1500, 2000 mm. For other lengths, please specify.
- Connection box: axial, radial or tangential, please specify.
  Angle 30° (standard), 45° or other. See page 11.
  Box centred over the height of the band up to 38 mm max.
  Over 38 mm, it is located at 20 mm from the edge.
- Square angle clamping flange, screw CHC M4 with square nuts.
- Our products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current <0.75 mA/kW



Ex: mica band heater with tangential connection



Diameter Ø (mm)	Height (mm)	Watt (W)
25 (25 to 26)	45	165
	50	185
	55	205
	60	220
26 (26 to 28)	20	70
	25	95
	38	155
	45	180
	50	200
	55	220
	60	240
28 (28 to 29)	45	195
	55	240
	60	265
30 (30 to 31)	45	210
	55	260
32 (32 to 33)	20	90
	45	220
	55	275
34 (34 to 35)	45	240
	55	295
	60	300

Diameter Ø (mm)	Height (mm)	Watt (W)
34 (34 to 35)	65	355
	70	380
36 (36 to 37)	20	100
	25	130
	30	160
	35	190
	38	220
	45	250
	50	280
	55	310
	60	340
	65	370
	70	395
38 (38 to 39)	20	105
	45	265
	50	300
	55	330
	60	360
	65	390
	70	420
	75	460
	80	485
40 (40 to 41)	65	430
	75	480

Diameter Ø (mm)	Height (mm)	Watt (W)
40 (40 to 41)	80	515
	90	580
42 (42 to 43)	20	120
	35	225
	45	295
	50	375
	55	365
	60	400
	65	435
	70	470
	75	505
	80	540
	90	610
44 (44 to 45)	65	455
	70	490
	75	530
	80	656
	90	640
46 (46 to 47)	20	130
	25	170
	30	210
	35	245
	38	285
	45	325

Diameter Ø (mm)	Height (mm)	Watt (W)
46 (46 to 47)	50	360
	55	400
	60	440
	65	480
	70	515
	75	560
	80	590
	90	670
48 (48 to 49)	35	260
	45	340
	50	380
	55	420
	60	460
	65	500
	70	540
	75	580
	80	620
	90	700
50 (50 to 51)	55	435
	65	520
	80	640
	90	725
52 (52 to 53)	20	150
	25	190

Diameter Ø (mm)	Height (mm)	Watt (W)
52 (52 to 53)	30	235
	35	280
	38	325
	45	365
	50	410
	55	455
	60	500
	65	550
	70	585
	75	628
	80	670
	90	760
54 (54 to 55)	20	155
	35	290
	50	425
	55	470
	60	515
	65	560
	70	605
	75	605
	80	695
	90	790
56 (56 to 57)	20	160
	25	210
	30	255

Diameter Ø (mm)	Height (mm)	Watt (W)
56 (56 to 57)	45	400
	50	445
	55	490
	60	540
	65	585
	70	630
	75	680
	80	725
	90	820
58 (58 to 59)	20	165
	25	215
	30	265
	35	315
	38	410
	45	410
	50	460
	55	510
	60	560
	65	608
	70	655
	75	700
	80	750
	90	850
60 (60 tot61)	20	220
	65	625
	70	675
	75	728
	90	880
62 (62 to 63)	20	180
	25	230
	30	285
	35	335
	38	390
	45	440
	50	495
	55	545
	60	600
	65	650
	70	700
	75	760
	80	805
	90	910
64 (64 to 65)	20	185
	25	275
	30	290
	35	345
	50	510
	55	565
	60	620
	65	680
	70	725
	75	780
	80	830
	90	940
66 (66 to 67)	20	190
	25	245
	30	300
	35	355

Diameter Ø (mm)	Height (mm)	Watt (W)
66 (66 to 67)	38	415
	45	470
	50	525
	55	580
	60	635
	65	690
	70	745
	75	800
	80	855
	90	970
68 (68 to 69)	20	195
	25	255
	38	400
	45	485
	50	540
	55	600
	60	655
	65	720
	70	770
	75	830
	80	885
	90	1000
70 (70 to 71)	20	200
	25	260
	55	520
	55	620
	60	500
	60	675
	65	730
	75	850
	80	915
	90	1030
72 (72 to 73)	20	210
	25	270
	30	390
	35	450
	38	515
	45	575
	55	635
	60	695
	65	755
	70	815
	75	880
	80	940
	90	1060
74 (74 to 75)	20	215
	25	275
	30	210
	35	400
	38	465
	45	525
	55	650
	60	715
	65	780
	70	840
	75	910
	80	965
	90	1090

Diameter Ø (mm)	Height (mm)	Watt (W)
76 (76 to 77)	20	220
	25	285
	30	350
	35	415
	38	480
	45	545
	50	605
	55	670
	60	735
	65	800
	70	865
	75	930
	80	995
	90	1120
78 (78 to 79)	20	225
	25	290
	30	360
	35	425
	38	490
	45	555
	50	625
	60	755
	65	820
	70	885
	75	960
	80	1020
	90	1150
80 (80 to 81)	20	230
	25	300
	55	705
	60	775
	65	850
	70	910
	75	980
	80	1045
	90	1080
82 (82 to 83)	20	235
	25	305
	30	375
	65	608
	38	515
	45	585
	50	655
	55	720
	60	795
	65	863
	70	930
	75	1000
	80	1070
	90	1210
84 (84 to 85)	20	245
	25	315
	30	385
	35	460
	38	530
	45	600
	50	670
	55	745

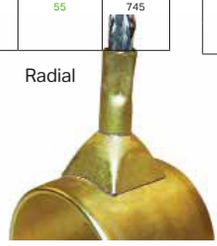
Diameter Ø (mm)	Height (mm)	Watt (W)
84 (84 to 85)	60	815
	65	885
	70	955
	75	1030
	80	1100
	90	1240
86 (86 to 87)	20	250
	25	320
	30	395
	35	470
	38	540
	45	615
	50	690
	55	760
	60	835
	65	910
	70	980
	75	1053
	80	1125
	90	1270
88 (88 to 89)	20	255
	25	330
	30	405
	35	480
	38	555
	45	630
	50	705
	55	780
	60	855
	65	930
	70	1000
	75	1075
	80	1150
	90	1300
90 (90 to 91)	20	260
	25	340
	35	490
	38	570
	50	720
	55	800
	65	950
	70	1025
	75	1100
	80	1180
	90	1335
92 (92 to 93)	20	265
	25	345
	30	425
	35	500
	38	580
	45	660
	50	740
	55	815
	60	895
	65	980
	70	1050
	75	1130
	80	1205
	90	1360

Diameter Ø (mm)	Height (mm)	Watt (W)
94 (94 to 95)	20	270
	25	350
	30	430
	35	510
	38	590
	45	670
	50	450
	55	750
	60	910
	65	990
	70	1070
	75	1150
	80	1230
	90	1390
96 (96 to 97)	20	280
	25	360
	30	440
	35	525
	38	605
	45	685
	50	770
	55	850
	60	930
	65	1010
	70	1090
	75	1180
	80	1255
	90	1420
98 (98 to 99)	20	285
	25	370
	30	450
	35	535
	38	620
	45	685
	50	785
	55	870
	60	955
	65	1038
	70	1120
	75	1210
	80	1285
	90	1450
100 (100 to 101)	20	290
	25	375
	35	545
	38	630
	45	715
	50	800
	55	885
	65	1055
	70	1140
	75	1225
	80	1310
	90	1480

See our different types of connection box available for sealed nozzle heaters.

Axial

Radial



Tangential

SINUS JEVI

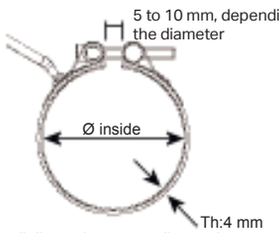
Mica Band Nozzle Heaters

Tailor-made band heaters.

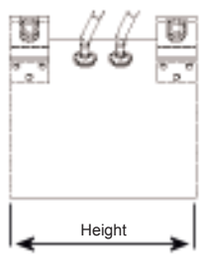
- Max. watt density over the surface of the heater: 4.5 W/cm².
- Max. working temperature: 340°C, depending on working conditions
- Diameter: 50 to 380 mm.
- Heating height: 50 to 420 mm, depending on connection type.
- Clamping sheath in aluminised steel allows a proper support of heaters with important cutouts or large dimension.
- Electric insulation with mica.
- Connection: - Without cap: wire, stud or pins terminals
  - With cap: stud, pin, terminals or braid
  Cap directing: axial, radial or tangential.
  See the connection definition page 11.
- Voltage: 230 V single phase (standard). Other voltages on request, from 12 to 500 V.
- Clamping: barrel nuts or spring loaded screws (compensated clamping) for diameters over 300 mm. See definition page 10.
- Products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current <0.75 mA/kW

Mica band heater with stainless steel clamping sheath and pictogram

° Overall dimensions of a mica band heater with clamping sheath



Overall dimensions according to the connection type.Ex: wire connection



- Special manufactures:
  - Accessories and options, see page 13.
  - How to define a special band heater, see page 19.

Tailor-made Mica Band Heaters

The band heaters shown below are tailor-made.
They can be fitted with accessories and options, see page 13. To define your requirements, please see form on page 19.

SEALED MICA HEATER

- Heater designed to complete our range of nozzle heaters, with heights over 90 mm.
- Max. operating temperature over the surface of the heater: 340°C, according to the working conditions
- Max. watt density over the surface of the heater: 6.5 W/cm².
- Diameter: 50 to 380 mm. Height: 50 to 420 mm.
  Thickness: 2.8 mm
- Brass or stainless steel sheath metal, brazed or welded.
- Electric insulation with mica plates.
- Connection: galvanized steel braid in CMBPE type cap, axial directing at 30° angle. See page 10
- Clamping types: square angle flange or barrel nuts. See page 10
- Standard clamping gap of the heater: 5 mm

HIGH WATT DENSITY MICA

- Model designed for heating applications requiring high watt density.
- Max. working temperature over the surface of the heater: 340°C, depending on the working conditions.
- Max. watt density over the surface of the heater: 8 W/cm².
- Diameter: 50 to 150 mm. Height: 30 to 111 mm.
  Thickness: 3 mm
- Sheath metal: aluminized steel.
- Electric insulation with mica.
- Connection: Wire connection coming from the thickness, page 11.
- Clamping with straps fitted with barrel nuts and M4 screws, length according to the diameter of the heater.
- Standard clamping gap of the heater: 5 mm.

Large Dimensions Mica Band Heaters

- Max. manufacturing dimensions for mica band heaters: 630 mm diameter, 600 mm height.
- Possibility of manufacturing heaters with very large diameters, to be used for drum heating. Several models of belts, with or without thermal insulation or waterproof do have a short delivery time. See the “Drum heater” section.

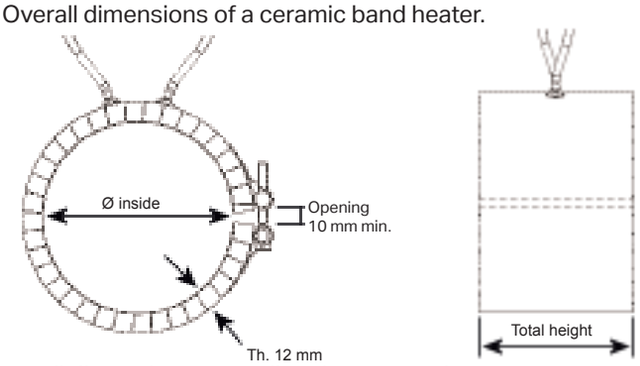
Ceramic Band Heaters

Tailor-made heaters.

- Max. watt density over the surface of the heater: 9 W/cm².
- Max. working temperature over the surface of the heater: 900°C, depending on working conditions.
- Diameter: 60 to 630 mm.
  (min Ø: 80 mm, for tangential connection box with terminals.)
- Heating height: 30 to 450 mm (multiple of 15 mm).
  Mini height is defined according to the chosen connection type.
  Total height: heating height + 4 mm for the thickness of the clamping sheath folded over the edges.
- Clamping sheath in aluminized steel, stainless steel or inconel, depending on the working temperature and surroundings.
- Electric insulation with steatite elements.
- Thermal insulation, located between the ceramic mat and the clamping sheath.
- Connection: - Without cap: wires, stud, terminals.
  - With cap: stud terminals, pins or braid.
  Directing of the cap: axial, radial or tangential direction.
  See the definition of the connection, page 11.
- Voltage: from 230 V single phase (standard) to 400 V three-phase, star or delta, according to the connection.
  Max voltage: 500 V. Other voltage available.
- Clamping: barrel nuts or spring loaded screws (compensated clamping) for diameters over to 300 mm.
  See the definition of clamping variations, page 10.
- Products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current < 0.75 mA/kW

Ceramic band heater in stainless steel, with barrel nuts clamping

- Overall dimensions of a ceramic band heater.



Overall dimensions according the connection type.
Sketch hereabove: leads termination.

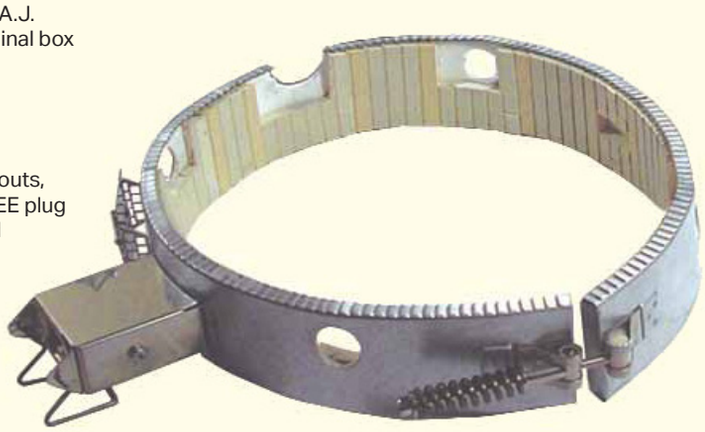
- Products in accordance with EN 60335-1
  Leakage current <0.75 mA/kW
- Special manufactures:
  - Accessories and options, see page 13.
  - How to define a special band heater, see page 19.

Ceramic band heater, with B.A.J. option stud terminals in terminal box and barrel nuts clamping.

Ceramic band heater, 2 pins radial plug connection with compensated clamping.

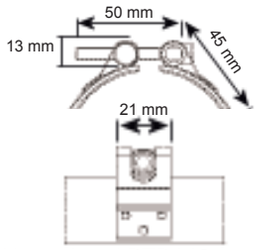
Ceramic band heater with thermocouple bridge, 2 pins radial plug connection and barrel nuts clamping.

Ceramic band heater, with cutouts, (holes and slots). 3 pins UTFCEE plug connection and compensated clamping.



Clamping Variations for Band Heaters

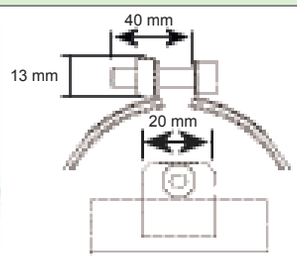
Barrel nuts



Barrel nuts clamping, threaded barrel and BTR M6 screws.

According to the dimensions of the heater, and/or depending on space restriction, the clamping system can be fitted: either on straps, independently of the heater or on a clamping heath.

Square angle flange



Clamping with BTR M6 screw and square locking nuts.

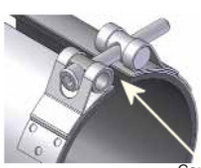
Mica band heaters: Square formed by clamping sheath with edges folded at 90° angle.
Clamping sheath band heaters: heavy gauge metal square welded to the clamping sheath.

As standard, the clamping height is equal to the height of the heater.

The number of clamping devices is defined according to the dimensions and to the electrical characteristics of the band heater.
Clamping assembly:
- As standard: clamping is in the gap of the active element (1)
- Special manufacture: clamping is out of line with the gap (2).

These heaters are fitted with a clamping sheath:

1

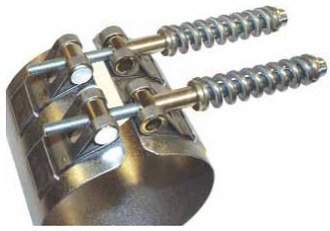


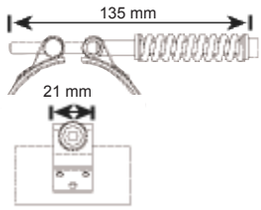
Gap of the heater

2

Gap of the heater

Barrel nuts and spring loaded screws

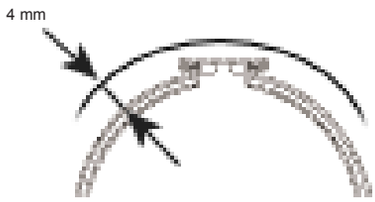




Barrel nuts clamping, threaded barrel and BTR M6 screws and heavy duty springs, allowing a powerful positive clamping.

According to the dimensions of the heater, and/or depending on space restriction, the clamping system can be fitted: either on a clamping sheath (used in most applications), on straps independently of the heater.

Sliding keyway

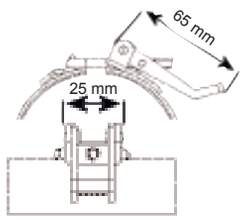


Both ends of the clamping sheath are shaped as a channel. Clamping is achieved with a trapezoidal keyway sliding over these channels.

The keyway is forced fitted.

Clamping sheath has the same height as the heater.
The height of the keyway is the same as the heater minus 10 to15 mm.

Quick release fasteners



Clamping system fitted on anti-burning clamping sheath or on energy saving heaters, BAJ type. (See pagina 16).
Band heaters fitted with a clamping sheath.

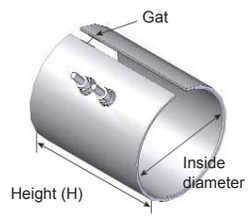
Barrel nuts	Spring loaded screws	Square angle flange	Key way	Quick release fastener
By default: - Mica clamping sheath, - Sealed mica heater with clamping sheath. - Ceramic	By default: - Mica Øi > 300 mm - Ceramic Øi> 300 mm	By default: - Mica Øi < 200 mm - Encapsulated sealed nozzle heater	Optional assembly: - Mica Øi < 100 mm Possible assemblies but not recommended: - Mica clamping sheath (option 60) - Mica Øi > 100 mm - Ceramic Øi < 100 mm	Optional assembly: - Ceramic, - Energy saving band heaters, - Band heaters fitted with an anti-burning sheath.
Optional assemblies - Mica Øi < 300 mm	Optional assemblies: - Mica clamping sheath, - Sealed mica heater with clamping sheath - Encapsulated nozzle heater, clamping sheath	Optional assemblies: - Mica clamping sheth, - Ceramic Possible assembly but not recommended: - Mica Øi > 100 mm		

Connections for Band Heaters

Description of different connections, with or without cap:
Wires: flexible wires, nickel core, silicone sheated fiberglass insulated, designed for a maximum operating temperature of 340°C.
Embossement connection and wire in the thickness: wire termination, each conductor is protected by a galvanized steel braid.
Terminals: M4, M5 or M6 screw terminals, depending on the watt density, assembled by a terminal with 2 washers and 1 nut.
Pins: pins with 2 poles, Ø6 mm, axe 19 mm, in nickeled stainless steel. Cap terminations, other examples of pins as option items.
See page 12. Braid (specific for termination with cap): 2 conductors wire termination, protected by a galvanized steel braid.
All our band heaters are equipped with an earth wiring, by default. If you do not want earth wiring, let us know.

Connections without cap

° Legend

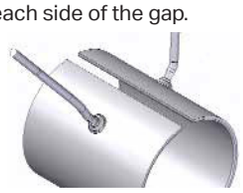


° Location of the connections

Both terminations on the same side, parallel to the gap.

Both terminations on the same side, perpendicular to the gap.

One termination on each side of the gap.



Standard band heaters are in aluminised sheath or stainless steel as option (band heaters with wire in the thickness and embossement connection can not be made of steel). The dimensional range remains the same for the two heaters mentioned above, unless advised. Terminations without cap, single phased, are located in the center of the height of the heater. (except for embossement connections and wire in the thickness). Dim. between the two axes: 19 mm.

Connections, on the same side, parallel to the gap

Pins terminals
Intensity < 9 A

Mica
Øi: 50 to 150 mm
H: 55 to 215 mm

Mica with clamping sheath
Øi: 70 to 380 mm
H: 60 to 215 mm

Stud terminals
Intensity < 13.5 A

Mica
Øi: 50 to 150 mm
H: 55 to 215 mm
Mica with clamping sheath
Øi: 70 to 380 mm
H: 60 to 215 mm
Ceramic: on demand

Wires
Intensity < 20 A

Mica
Øi: 50 to 150 mm (alu)
H: 50 to 150 mm (st. steel)
Mica with clamping sheath
Øi: 70 to 380 mm
H: 60 to 215 mm
Ceramic: on demand

Connections, on the same side, perpendicular to the gap

Stud terminals
Intensity < 13.5 A

Mica clamping plate
Øi: 70 to 380 mm
H: 45 to 215 mm

Ceramic: on demand

Wires
Intensity < 20 A

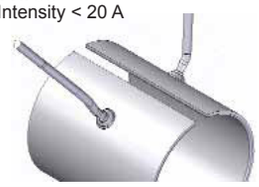
Mica
Øi: 70 to 380 mm
H: 45 to 215 mm
Keramisch
Ømin: 70 to 380 mm
H:30 to 450 mm

Connections located on each side of gap

Stud terminals
Intensity< 13.5 A

Mica
Øi: 50 to 150 mm
H: 30 to 111 mm
Mica with clamping sheath
Øi: 70 to 380 mm
H: 65 to 111 mm
Ceramic: on demand

Wires
Intensity < 20 A



Mica
Øi: 25 to 150 mm (alu)
Øi: 40 to 150 mm (st. steel)
H: 20 to 111 mm
Ceramic
Øi: 70 to 380 mm
H: 60 to 215 mm

Embossment connection
Intensity < 4.5 A

Mica
Øi: 30 to 150 mm
H: 32 to 111 mm

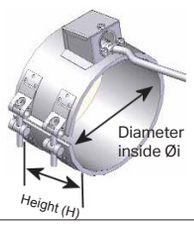
Wires in the thickness
Intensity < 4.5 A

Mica
Øi: 30 to 150 mm
H: 30 to 111 mm

Possiblity to add plugs, as option items. See chapter "Options" page 13.
Refer page 19 "How to define special band heaters" to help you to define a quotation. Choose termination type and fill in the enclosed form.

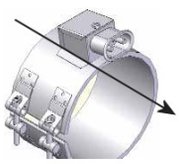
Connections for Band Heaters

° Legend

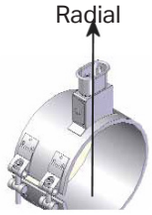


° Directions of the caps

Axial



Radial



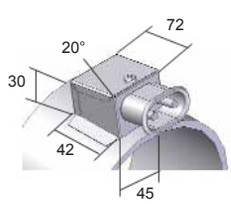
Tangential

Other angles on demand

- Description of different types of connections: See this page
- Mica and ceramic b.h.: standard aluminised sheath, option st.steel.
- Caps: standard aluminised plate, option stainless steel.
- Sealed mica b.h. and caps: all pieces made of brass or st. steel.
- Position of caps on the height: please consult us.
- The sketches of the connections shown below, correspond to Øi and H ranges mentioned in the table. Other ranges, see note (1).
- Models of caps, below, for single phase coupling. Possibility of three phase (stud terminals and braid), switchable or not. Please, consult us.

Axial direction

Pins terminals - Intensity < 16 A (single phase)

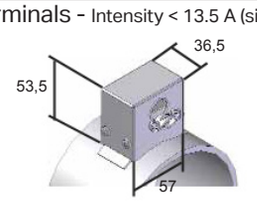


Mica
Øi: 70 to 380 mm/H: 44 to 424 mm

Other range (1):
Øi: 60 to 250 mm/H: 35 to 43 mm.

Ceramic:
Ømin: 60 mm - H: 45 to 450 mm

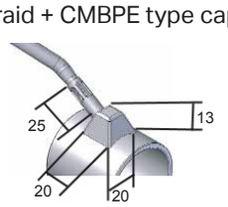
Terminals - Intensity < 13.5 A (single phase)



Mica
Øi: 95 to 380 mm /H: 70 to 424 mm

Other range (1):
Øi: 95 to 250 mm/H: 40 to 69 mm.

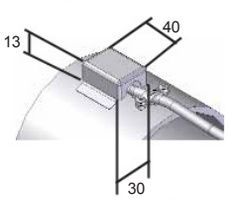
Braid + CMBPE type cap, angle 30°- Intensity < 7.5 A (single phase)



Sealed mica (brass)
Øi: 30 to 250 mm/H: 91 to 215 mm
Sealed mica (stainless steel)
Øi: 30 to 250 mm/H: 61 to 215 mm
Mica
Øi: 45 to 250 mm/H: 41 to 130 mm

Other direction: radial or tangential, with different angles. (See page 13)

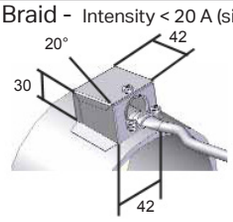
Braid + small dimensions cap - Intensity < 20 A (single phase)



Mica
Øi: 90 to 250 mm/H: 30 to 49 mm
and Øi: 60 to 380 mm/H: 50 to 111mm
Imax: H<111 mm: 13.5 A, beyond 20 A.
Other range (1):
Øi:60 to 380 mm/H: 112 to 424 mm (Imax 20A)

Also available with radial or tangential directions. (See page 13)

Braid - Intensity < 20 A (single phase)



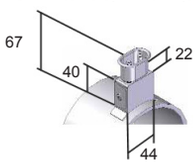
Mica
Øi: 60 to 380 mm/H: 44 to 69 mm
and Øi: 70 to 380 mm/H: 70 to 424 mm

Ceramic
Ømini 60 mm / H: 45 to 450 mm

Note (1): for these ranges, please consult us for cap dimensions.

Radial direction

Pins - Intensity < 16 A (single phase)

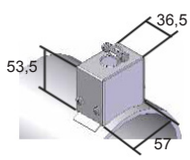


A position at the side of the band is also possible

Mica
Øi: 50 to 250 mm/H: 22 to 43 mm
and Øi: 50 to 380 mm/H: 44 to 424 mm
Imax: H<29 mm: 4.5A, tot 16 A
Other range (1):
Øi: 35 to 49 mm/H: 22 to 285 mm.

Ceramic:
Ømin: 60 mm - H: 30 to 450 mm

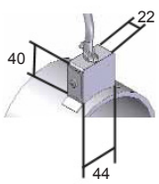
Stud terminals - Intensity < 13.5 A (single phase)



Mica
Øi: 75 to 250 mm /H: 35 to 43 mm
and Øi: 75 to 380 mm/H: 44 to 424 mm

Ceramic
Ømin: 60 mm/H: 30 to 450 mm

Braid - Intensity < 20 A (single phase)

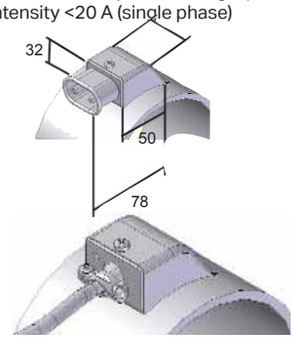


Mica
Øi: 50 to 250 mm /H: 22 to 43 mm
and Øi: 50 to 380 mm/H: 44 to 424 mm
I max: **H <** 29 mm: 4.5 A, beyond 20 A
Other range (1):
Øi: 35 to 49 mm / H: 22 to 285 mm

Ceramic
Ømini 60 mm / H: 30 to 450 mm

Tangential direction

Pins - Intensity < 16 A (single phase) or braid - Intensity <20 A (single phase)



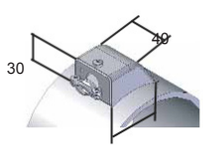
Mica
Øi: 70 to 380 mm/H: 51 to 424 mm

Other range (1): pins:
Øi: 110 to 250 mm/H: 32 to 50 mm.

Other range (1): braid
Øi:90 to 250 mm / H: 35 to 50 mm (Imax 20A)
and Øi: 60 to 380 mm / H: 112 to 424 mm
Øi: 60 to 250 mm / H: 50 to 111 mm (Imax 13.5A)

Ceramic:
Ømin: 60 mm / H: 45 to 450 mm

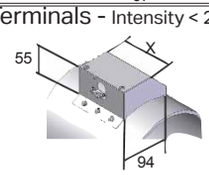
Terminals - Intensity < 13.5 A (single phase)



Mica
Øi: 70 to 380 mm /H: 51 to 424 mm

Other range (1):
Øi: 95 to 250 mm / H: 40 to 50 mm
and Øi: 110 to 250 mm / H: 35 to 39 mm

Terminals - Intensity < 20 A (single fase)



Ceramic
Ømin: 60 mm/ H: 45 to 450 mm

X: the cap height equals the band height

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Options for Band Heaters

Beyond the options as a complement to the possibilities mentioned in the product descriptions.

ACCESSORIES

Heat sensor bridge

Mica
Sealed mica heater
Sealed mica nozzle h.
Mica w. clamping sheath
Ceramic

Bridge installed on the heater, thanks to a nozzle.
Threading according to the diameter of the bridge

Ø	1/8	1/4	3/8	8	8	10	10	12	12	14	14	16
	gas	gas	gas	100	125	100	150	100	175	100	150	100

Welded bracket

Mica
Mica w. clamping sheath
Ceramic

Welded bracket which can be used as cable guides or clips for all kind of unheavy equipment

TEMPERATURE SENSORS

Thermocouple

Type J: 0 to 700°C
Type K: 0 to 1000°C

Sealed mica heater
Sealed mica nozzle heater
Mica with clamping sheath
Ceramic

2 possibilities:
- insulated thermocouple: embossement connection, axial.
- Built-in, insulated or non insulated thermocouple, brazed in a small CMBPE cap type (max. rated current 4.5A)

MARKING

Special marking

By default:

Diameter Height Wattage
Voltage Code

Mica
Sealed mica heater
Sealed mica nozzle heater
Mica with clamping sheath
Ceramic

SPECIAL MOUNTING

Hinge on a clamping sheath

Mica with clamping sheath

Clamping sheath fitted with a hinge for easy installation. It ishighly recommended to put notches on the external plate of the heating element.

Partial coverage of band heaters

Mica
Sealed mica heater
Sealed mica nozzle heater
Mica with clamping sheath
Ceramic

Band heaters can be manufactured as multiple pieces, for differents reasons such as overall dimensions, ease of installation or manufacture problems.

WIRING

Options for CMBE* type cap

Intensity: 7.5 A

Angle

Sealed mica heater
Sealed mica nozzle h.
Mica w. clamping sheath

0° 45° Other angle

Axial Radial Tangential

The different possibilities of angles and orientations can be combined

CMBPE* type square cap

Sealed mica heater
Sealed mica nozzle heater
Mica with clamping plate

Insulated brazed cap, just like the pyramidal CMBPE cap. All positions available (axial, radial, tangential). Please, mention the angle you need.

CMBPE* cap installed at the edge of the band heater

Sealed mica heater
Sealed mica nozzle heater

CMBPE type cap positionned at 11 mm from the edge and at 180° from the clamping.

CMBPE cap with other positions

Ex: Cap installed at 90° from the gap

Sealed mica heater
Sealed mica nozzle heater
Mica clamping plate

For this kind of option, please, mention the position angle you need, from the gap of the band

Extended tube on CMBE cap

Sealed mica heater
Sealed mica nozzle heater
Mica clamping plate

This option is available for tubes longer than 25 mm, for all directions: axial, radial and tangential.
Please, mention the angle.

*CMBPE: Insulated mica nozzle band heater

Options for Band Heaters
Connection

Special plug mounting


Ref: CEE22


Ref: STAS.3.N (male)
STAK.3.N (female)

Sealed mica heater
Sealed mica nozzle h.
Mica w. clamping sheath
Ceramic

Plug CEE: plug 2 poles + earth, 250V, 10A
Plug STAS: plug 3 poles + earth, 400V, 16A
For the other kinds of plugs, please consult us.

UTFCE plug

Mica w. clamping sheath
Ceramic

2 poles 5x2, space between poles 12.5 mm + earth 6x2 mm.
240 V, 16A

Breaded wires

They protect the wires from high temperatures. Length to be specified, for multiple of 1000 mm

Mica
Sealed mica nozzle heater
Ceramic

Pins cap brazed on tube


Ex: band equipped with a sensor bridge

Sealed mica heater
Sealed mica nozzle heater
Mica w. clamping sheath

Option: box with pins, brazed on the tube of a CMBPE box type. Radial position only. Pins with 2 poles, Ø 6 mm, TCT 19 mm, in stainless steel.

Interlink connector


Ex. of assembly on a band heater equipped with a hinge

Mica with clamping sheath
Ceramic

Thanks to this option, you can connect 2 parts of the band heater, with only one connection.

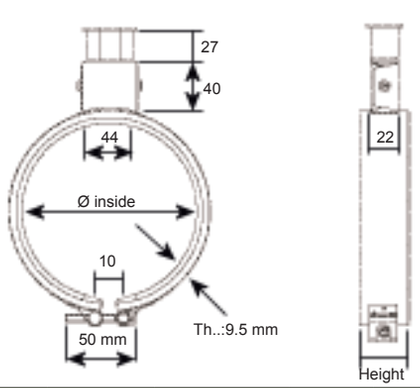
With no earth ground wire

Our bands are equipped with earth ground wires. If you need bands without earth ground wire, please mention it on your order.

Sheated Heater with Radial Connector

- Max. watt density over the heater: 4.8 W/cm².
- Max. operating temp. over the surface of the heater: 450°C
- Diameter min: 139 mm
  Height min: 18 mm
  Wattage: 500 to 1015 W - Voltage: 230 V or 400 V single phase.
  Other dimensions on demand
- Clamping sheath in aluminised steel.
- Stainless steel sheated element.
- Radial cap connection, with Ø 6 mm nickel-plated steel pins terminals, space between axes 19 mm, and cup assembly.
  Earth connection, thanks to the pin connector.
- Clamping: welded barrel nuts and BTR M6 screw, positioned on the sheath plate.
- Our products are in accordance with EN 60335-1
  Wattage tolerance: +5% -10%
  Leakage current <0.75 mA/kW
- Special manufactures:
  - How to define a special band heater, see page 19.
- As the sheated element has a specific diameter, heaters should be fitted on a same diameter cylinder (support).

- Dimensions of a standard radial connector plug:



Diameter Ø mm	Height (mm)	Voltage (V)	Watt (W)	Article number
139	18	230	500	B13918C50U22
	38	230	1015	B13938C101U22
139	18	400	500	B13918C50U38
	38	400	1015	B13938C101U38

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Mineral Insulated Band Heaters

• Very high watt density band heaters (W/cm²)

Properties

• Standard watt density over the surface of the heater: 10 W/cm².

• Max. operating temp. over the surface of the heater: 800°C, under specific conditions.

• Diameter: 25 to 70 mm
Height: 25 to 60 mm
Wattage: 200 to 880 W, 230 V.

• Covering plate in stainless steel.

• High watt density, electric mineral insulation.

• Standard termination: nickel core, fiberglass silicone insulated + earth wire, protected by a galvanized metal braid, length up to 330 mm.

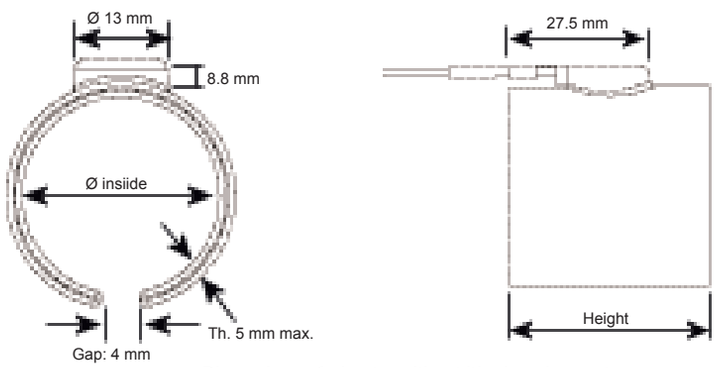
• Axial cap, placed at the edge of the band heater.

• Standard clamping: by a clamping sheath + barrel nuts.
Special clamping: trapezodial sliding keyways (see below)

• Products are in accordance with EN 60335-1:
Wattage tolerance: +5% -10%
Leakage current: < 0.75 mA/kW

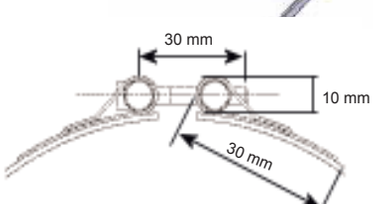
• Clamping by sheath + barrel nuts:
Clamping by BTR M4 screw, installed on a plate having the same height as the heater. This plate is set straight up on the heater for a good resistance against expansion.

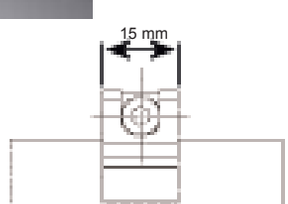
• Dimensions of a standard mineral insulated band heater:

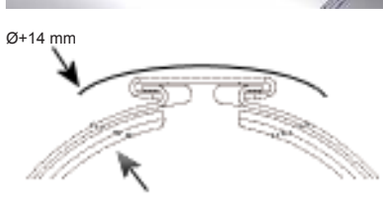


Dimensions of a heater without it's clamping system.
Clamping type to be defined according to your available space.

• Clamping by sliding keyway:
Specially designed for the mountings with little space. Mainly used for little diameter band heaters. Folded clamping plate on which a sliding keyway.







Diameter Ø mm	Height (mm)	Watt (W)	Article number
25	25	200	M2525C20A3
	30	250	M2530C25A3
30	25	250	M3025C25A3
	30	300	M3030C30A3
	35	350	M3035C35A3
	38	380	M3038C38A3
	50	500	M3050C50A3
32	30	320	M3230C32A3
35	30	340	M3530C34A3
	35	400	M3535C40A3

Diameter Ø mm	Height (mm)	Watt (W)	Article number
38	38	480	M3838C48A3
40	25	330	M4025C33A3
	30	400	M4030C40A3
	35	460	M4035C46A3
	38	500	M4038C50A3
	45	580	M4045C58A3
	50	650	M4050C65A3
	60	800	M4060C80A3
42	30	420	M4230C42A3
45	30	440	M4530C44A3

Diameter Ø	Height (mm)	Watt (W)	Article number
45	38	550	M4538C55A3
50	30	500	M5030C50A3
	35	580	M5035C58A3
	38	625	M5038C62A3
	50	800	M5050C80A3
60	30	600	M6030C60A3
	38	750	M6038C75A3
70	38	880	M7038C88A3

° With high watt density and high working temperatures, mineral insulated band heaters must perfectly adapt their support. Therefore, their clamping capacity is equal to their diameters.

Energy Saving Band Heaters

- The energy saving B.A.J. band heaters are specially set up on injection moulding machines and extrusion heads. By combining a band heater to a B.A.J. insulation system, we can guarantee a very low thermal loss, both conductive and radiative. This system allows a poorer energy consumption if compared to an installation equipped with conventional, non insulated band heaters.
  This system is divided into 2 families:
  - mini B.A.J.: insulation provided by a thin layer of insulator, energy saving up to 15% on average.
  - B.A.J.: insulation provided by a thin layer of insulator, energy saving up to 40% on average.

- The energy saving band heater technology also called B.A.J. can be adapted to all kind of band heaters, namely mica and ceramic heater.

- In spite of a high working temperature, the special design of our product guarantees a very efficient preservation of the insulator being used.

- The B.A.J. system is highly appreciated for its capacity of seperately insulating every single band heater and respecting in the same time the different heating areas, taking for example the injection lines or the extrusion ones.

Technical properties

- External plate, in stainless steel or stainless steel treated in the surface, protecting the insulator from all sort of compression. It acts like a reflector, spreading the radiation towards the surface to be heated. The frame is made of two cylinder halves connected by a hinge sized for easy insertion into the barrel.

- Insulating structure with a weak thermal conductivity, placed between the frame and the band heater. The thickness of the insulator has been specially improved in order to minimize eventual loss.

- Mica or ceramic band heaters, depending on application. Their thermal capacity respects all insulation factors in order to avoid overheating problems and premature failure of the band heater.

- The band heater and the frame are fixed with barrel nuts, which allows a powerful clamping and is specially designed for a mounting where space is limited.

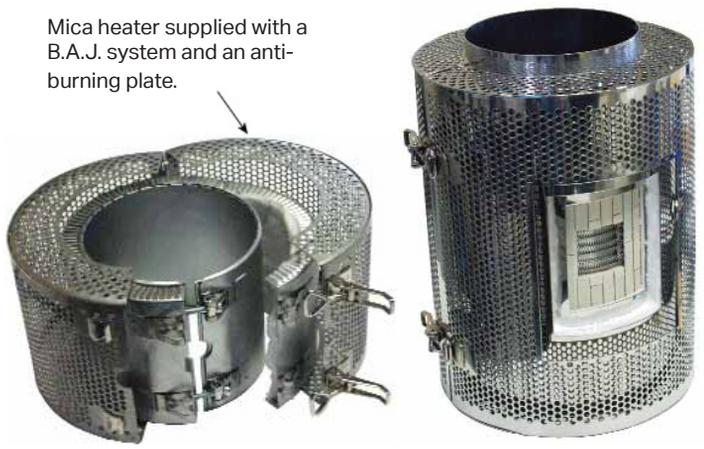
- Connection with cap: axial, radial or tangential, set up on the external frame. Different types of connection, see page 12.

- Products are in accordance with EN 60335-1
  Wattage tolerance: +5% - 10%
  Leakage current < 0.75 mA/kW

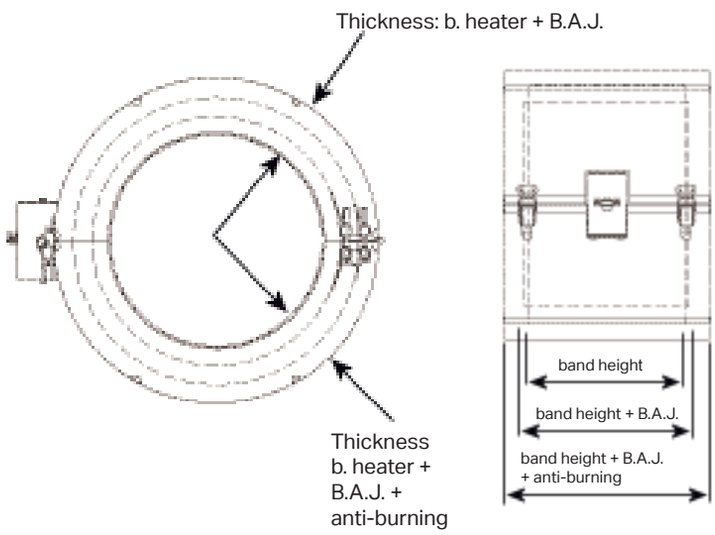
Productions of energy saving band heaters are subject to our approval depending on power rating, current, sizes, termination and accessoires.

Cut showing us different thickness of materials of a heater fitted with a B.A.J. system and an anti-burning plate.

Mica heater supplied with a B.A.J. system and an anti-burning plate.



Dimensions



Type of band heater	Thickness	Total height
Ceramic insulated heater (B.A.J.) Ceramic insulated heater (B.A.J.) with anti-burning plate	28 mm 50 mm	H + 6 mm H + 11 mm
Insulated mica heater (mini B.A.J.) Insulated mica heater (B.A.J.) Insulated mica heater (mini B.A.J.) with anti-burning plate	10 mm 20 mm 50 mm	H H + 6 mm H + 11 mm

Overall dimensions which do not include the cap of the wiring.

Options

- - Mini B.A.J. mounting on a mica band heater: Option 6
  - B.A.J. mounting on a mica or ceramic band heater.

- In order to protect users from eventual burning an anti-burning plate (also called open work plate) can be installed in a band heater supplied with a B.A.J. system.

- The energy saving band heaters can be fitted with sensors for controllers. See our support for sensors, option 2, page 13.

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Band Heaters with Blower Assembly

- Band heaters with blower assembly are stand alone heaters fitted with forced air blowers. This system maximizes cooling capabilities across the body of the barrel.
  Mostly used for extruders and press moulding machines, this technology allows efficient working of the resin and of the sensible plastic materials, which need high and stable working temperatures.

- Band heaters with blower assembly are the ideal solution for preventing barrels from the self-overheating effect.

- If we join together band heaters and forced air blowers we get the following features:
  - quick heating process on the length of the band heater,
  - quick fall in temperature thanks to the blowering system by forced air heating, minimizing the thermic force of the barrel.

Ceramic band heater with blower assembly

Technical properties

- The shell made of polished or treated stainless steel consists of 2 cylinder halves connected by a hinge. This one will channel the air in order to optimize the cooling effect.
  Security feet maintain the shell fixed to the hinge and it also allows eventual intervention excluding the risk of dislocation.

- Band heaters are set up on a skeleton able to support their wirings.
  (Number of band heaters depending on space)

- An intensive cooling effect generated by the forced air blowers and combined to a good thermal conductivity thanks to the dielectric insulator of the band heater will allow rapid elimination of calories.

- Ceramic or mica band heaters, according to the application.

- Clamping system: barrel nuts. The shell is closed by quick release fasteners.

- Wiring: stud under cap, single or three phase voltage.
  Tangential or radial position, centered on the height of the blower assembly and fitted on the shell opening.

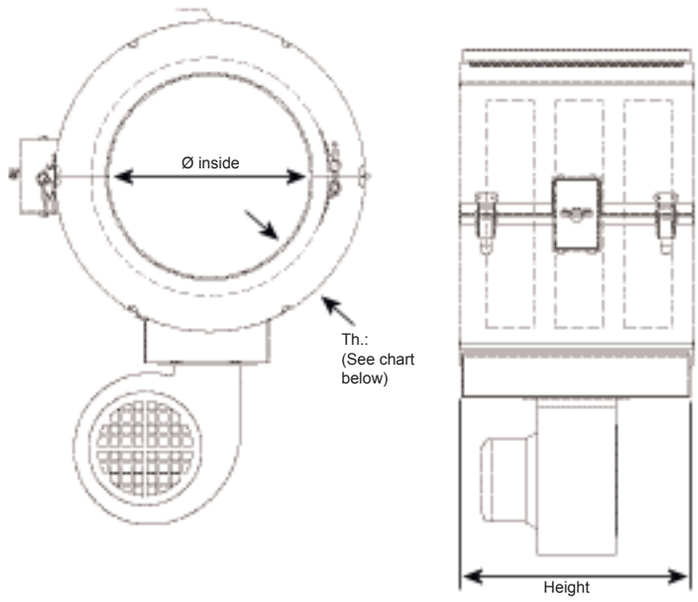
- Products are made in accordance with EN 60335-1
  Wattage tolerance: +5% - 10%
  Leakage current < 0.75 mA/kW.

Options

- In order to protect users from eventual burning, an anti-burning plate (also called open work plate) can be installed in a band heater with blower assembly.

- Band heaters with blower assembly, can be fitted with regulation sensors. In this case a special boring should be foreseen. See our support for sensors, option 2, page 13

Overall dimensions



Remark that sizes and ratings of forced air blowers cannot be listed as their design and manufacture can be specific for each application

H: height of the band heater

Type	Thickness
Ceramic band heater with blower Ceramic band heater with blower assembly and anti-burning plate	30 mm 50 mm
Mica band heater with blower assembly Mica band heater with blower assembly and anti-burning plate	30 mm 50 mm

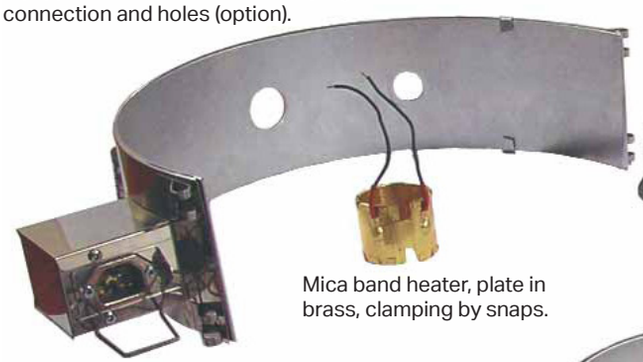
Overall dimensions which do not include the forced air blower

Production of “heaters with blower assembly”, units are subject to our approval, depending on power rating, current, sizes, terminations and accessories. Please, consult us.

Examples for Special Band Heaters

For best determining the parameters of this type of band heater, we kindly ask you to complete specifications.
Non contractual pictures.

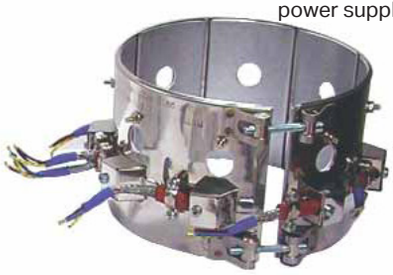
Mica band heater with clamping sheath, equipped with optional UTFCEE plug connection and holes (option).



Mica band heater, plate in brass, clamping by snaps.

Mica band heater fitted with a B.A.J. system (insulated shroud) and various cutouts.

Heater fitted with multiple sections and seperately power supply.



Mica band with cutouts and clamping by specific squarr angle flange.

Mica band heater with cutouts in various shapes and clamping by quick release fasteners.

Small diameter ceramic band heater equipped with a temperature sensors support.

Assembly Recommendations for Band Heaters

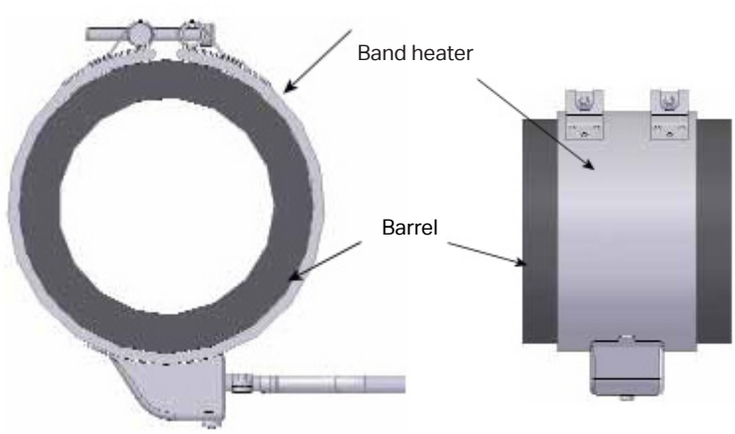
As for facilitating thermal transfer between the band heaters and the sheath, some supplementary cautions must be taken. For further information, please see our technical section for assembly instructions:

- We advise you to match the heater watt density to the medium being processed. A band heater too performant for your needs could increase not only the risk of overheating but also the switching frequency of the controller. Do not operate aboce rated voltage, watt density or temperatures. Excess voltage, wattage or temp. will result in heater failure.

- Our band heaters work by conduction heat transfer: They should never come into contact with the open air.

- **Please avoid to open band heaters when mounting them up on the barrel**: irreversible internal damage could occur. If possible, they must be slipped over the end of the barrel. Only band heaters equipped with a hinge or ceramic band heaters can be opened.

- Band heaters and wirings must be protected from eventual material contamination as a measure to preserve their heating capacity. Prior to installation barrels should be cleaned.



Advised dispotion:
- the inside diameter of the band heater must perfectly fit on the diameter of the barrel in order to facilitate a good heating exchange.
- the wiring must be placed upside down, as for avoiding eventual overheating.

- In order to facilitate heat exchange, band heaters must be thightened up again after operating for the first time.

Band Heater Specification

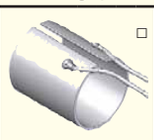
Company:	**Tel:**	**/Fax:**
Contact:	**E-mail:**	**Date:**

Band heater type:
□ Mica band heater (page 5 and 8)
□ Sealed nozzle mica heater (page 3 and 6)
□ Ceramic band heater (page 9)
□ Mica band heater with radial connaection plug
(page 14)

Dimensions of the heater:
Diameter (mm):
Height (mm):
Wattage (W):
Voltage (V): Single/Three phase

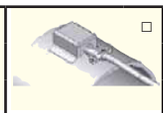
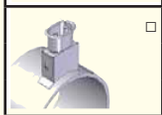
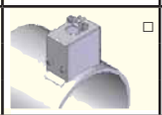
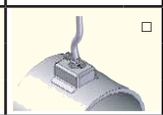
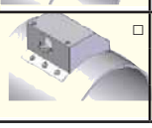
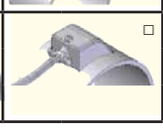
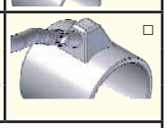
Material of the heater:
□ Aluminised steel
□ Stainless steel
□ Brass
Numbre of items:

Connection: Please, specify the band heater and type of connection you need and, eventually mention the type of wires and length.

Same side, ⊥ gap		Same side // gap			Connections located on each side of the gap			
□ 	□ 	□ 	□ 	□ 	□ 	□ 	□ 	□ 
Mica-Ceramic	Mica-Ceramic	Mica	Mica-Ceramic	Mica-Ceramic	Mica-Ceramic	Mica-Ceramic	Mica	Mica

Wire exiting: □ Standard (glass fiber) □ High temperature wires □ Silicone cable □ Metallic braid □ Other: .....

Length multiple by 500 mm (mm):..... Protection: □ Bead Length (mm): .....

Axial	□ 	□ 	□ 	□ 	□ 
Radial	□ 	□ 	□ 	□ 	□ 
Tangential	□ 	□ 	□ 	□ 	□ 

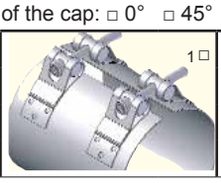
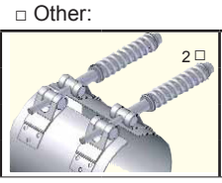
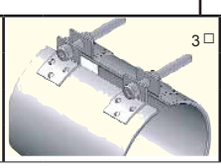
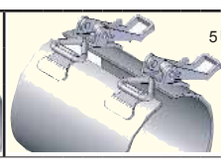
Braid: Multiple by 500 mm (mm):

CMBPE cap: Mention the angle of the cap: □ 0° □ 45° □ Other:

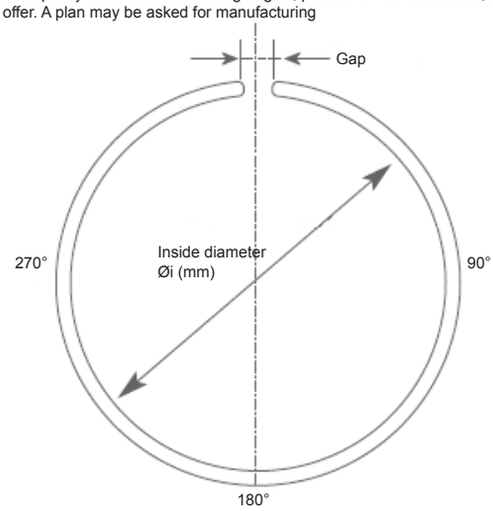
Options and special manufactures:

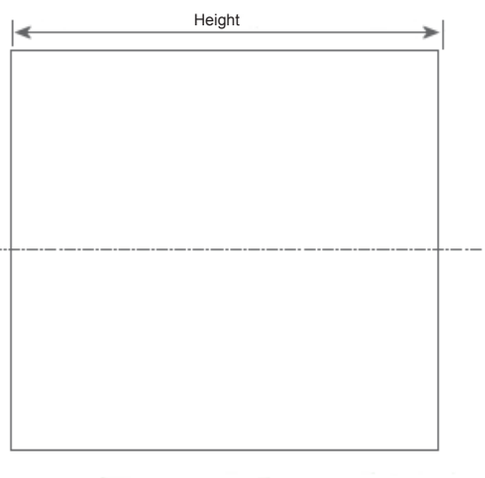
For the following information, please, specify the position and dimensions on the sketch below.
□ Hole:
Diameter (mm): Number:
□ Cutouts:
Length x large (mm): Number:
□ Support for sensor:
Diameter + thread pitch:
Other options (all usefull information):

Clamping:
1 - Barrel nuts
2 - Compensated clamping
3 - Square angle flange
4 - Sliding keyway
5 - Quick release fasteners

1 □ 
2 □ 
3 □ 
4 □ 
5 □ 

Please specify the values concerning angles, position of the connection, holes and sensor supports clockwise,with the clamping as the point of reference. This form is only used in order to make an offer. A plan may be asked for manufacturing





Other information:

Productions of band heaters with energy saving are subject to our approval depending on power rating, current sizes, termination and accessories

SINUS JEVI Ω

Band Heater Specification

To process your order or quotation for a mica or a ceramic band heater please specify the following technical information. When placing your order do not forget to enclose this shuttle form which will allow us to determine the parameters of your product.

Company: ..... **Tel:** ..... **/Fax:** .....

Contact: ..... **E-mail:** ..... **Date:** .....

° Application

□ Heat built □ Heating + temperature regulation □ Only temperature regulation

° Product to be heated: .....

° Mass or volume (static product) (kg or m³): ..... Flow (m³/h): .....

° Initial temperature (°C): ..... Final temperature (°C): ..... Ambient temperature (°C): .....

° Time for the heat built (hours): .....

° Characteristics: Density (kg/m³): ..... Specific heat (J/kg.K): ..... Thermal conductivity (W/m². °C): .....

° Special information about the product:.....

.....

° Does the state of the product change during the heating (e.g.: a solid becomes liquid): .....

Melting point (°C): ..... Latent heat of fusion (J/kg): .....

° Brand of the engine on which the band heater will be mounted: .....

° Area to be heated: Diameter (mm): ..... Height (mm):.....

Number of band heaters needed:..... (with the provision that they can be manufactured)

° Electrical supplier of the band heater: Voltage (V): ..... □ Single phase/ □ Three-phase

Connection of the band heater: □ Wires or braid: length (mm): ..... □ Stud □ Terminal

° Description of the band heater:

Materials of the support on which the band heater will be mounted..... Dimensions (mm): .....

Weight of the support (kg or m³): .....

° Description: Density (kg/m³): ..... Specific heat (J/kg.K): ..... (W/m².°C).....

° Dimensions around the support: .....

° Band heater clamp (if defined): .....

° If the band heater needs holes or any other drilling, please mention it on the drawing on the left.

Please send a drawing of the element you need to heat. This will help us to calculate the heat losses and to adapt the heater, taking into account the possible dimension requirements (e.g. identations)

° Environment:

° Use: food, industry, plastic..... corrosive surrounding.... Special leak tightness, reinforced insulation:.....

.....

.....

Band heater material (if known): □ Alluminated □ Stainless steel □ brass

° Location: inside or outside, heated place or not, wind,....: .....

.....

° Regulation:

° Temperature controllers: □ J thermocouple □ K thermocouple □ PT100 sensor

° Model (bayonet to screw...) : ..... Sensor fittings: Diameter ..... Lead .....

° Regulation type: □ On/off □ PID □ Other: .....

Notes

SINUS JEVI

Sinus is one of the pioneers in the field of explosion proof heating equipment, today we are still operating at the forefront. We manufacture according to ATEX as well as IECEx and EAC directives.

For the production of Ex-proof equipment a PQAN (Product Quality Assurance Notification) is issued by TUV-Nord. Our ISO-9001 and ISO-14001 systems are also monitored by this organisation.

NIBE

945.1101E • 08-15

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