Base Load Power Hub (BLPH)

EHT TECHNICAL DATA SHEET (HEATING CABLES, JBs, TERMINATION KITS, THERMOSTATS, ACCESSORIES)

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Issue for Review (IFR)
02	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1	
2	
3	
4	

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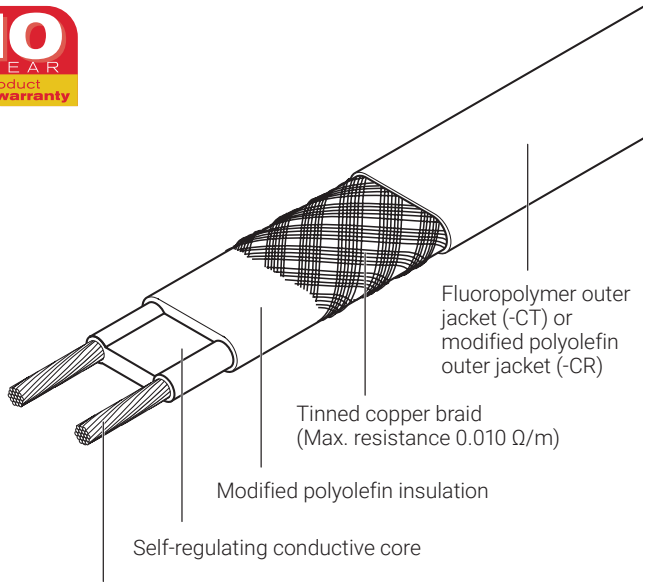
BTV

CONNECT AND PROTECT

Self-regulating Heating Cable

PRODUCT OVERVIEW

10 YEAR Product warranty



Electrical heat-tracing for frost protection without steam cleaning.
The nVent RAYCHEM BTV-family of self-regulating, parallel circuit heating cables is used for frost protection of pipes and vessels. It can also be used for process temperature maintenance up to 65°C.

Application

Traced surface type	Carbon steel Stainless steel Plastic Painted or unpainted metal
Chemical resistance	For organic corrosives: use -CT (fluoropolymer outer jacket) For mild inorganic solutions: use -CR (modified polyolefin outer jacket) For aggressive organics and corrosives consult your local nVent representative

Supply voltage

230 Vac (Contact your local nVent representative for data on other voltages)

PRODUCT SPECIFICATIONS

Product dimensions and weight

	3BTV2-CR 3BTV2-CT	5BTV2-CR 5BTV2-CT	8BTV-2-CR 8BTV-2-CT	10BTV2-CR 10BTV2-CT
Width x Thickness (nominal) mm	10.5 x 5.5		13.2 x 5.5	
Weight (g/m)	110		150	

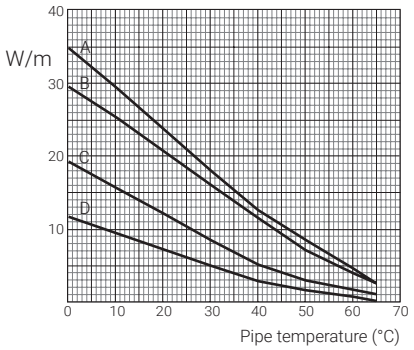
Technical details

Maximum maintain or continuous exposure temperature (power on/off)	65°C
Maximum intermittent exposure temperature (power on/off)	85°C Maximum cumulative exposure 1000 hours
Minimum installation temperature	–60°C
Minimum bend radius	–60°C ≤ T<–20°C: 35 mm –20°C ≤ T<–10°C: 30 mm –10°C ≤ T< 0°C: 25 mm 0°C ≤ T <+10°C: 20 mm T≥ +10°C: 12 mm

Thermal output rating

Nominal power output at 230 Vac on insulated steel pipes

A 10BTV2-CT
10BTV2-CR
B 8BTV-2-CT
8BTV-2-CR
C 5BTV2-CT
5BTV2-CR
D 3BTV2-CT
3BTV2-CR



	3BTV2-CR 3BTV2-CT	5BTV2-CR 5BTV2-CT	8BTV-2-CR 8BTV-2-CT	10BTV2-CR 10BTV2-CT
Nominal power output (W/m at 10°C)	9	16	25	29

Maximum circuit length based on type 'C' circuit breakers according to EN 60898

Electrical protection sizing	Start-up temperature	Maximum heating cable length per circuit (m)			
16 A	–20°C	155	110	70	45
	+10°C	200	160	110	65
20 A	–20°C	195	140	90	55
	+10°C	200	160	125	85
25 A	–20°C	200	160	110	70
	+10°C	200	160	125	105
32 A	–20°C	200	160	125	90
	+10°C	200	160	125	110

The above numbers are for circuit length estimation only. For more detailed information please use the nVent RAYCHEM TraceCalc software or Contact your local nVent representative. nVent requires the use of a 30 mA residual current device to provide maximum safety and protection from fire. Where design results in higher leakage current, the preferred trip level for adjustable devices is 30 mA above any inherent capacitive leakage characteristic of the heater as specified by the trace heater supplier or alternatively, the next common available trip level for non adjustable devices, with a maximum of 300 mA. All safety aspects need to be proven.

APPROVALS

For use ordinary area and hazardous area Zone 1 and Zone 2 (Gas), Zone 21 and Zone 22 (Dust).

Temperature classification
T6

Product certification

More details about product certification, approvals and conditions of safe use are available in the installation manual for Self-regulating and Power limiting heating cable systems at www.nVent.com/RAYCHEM

ORDERING INFORMATION

Part description	3BTV2-CR	5BTV2-CR	8BTV-2-CR	10BTV2-CR
Part No. (*)	914279-000	414809-000	479821-000	677245-000
Part description	3BTV2-CT	5BTV2-CT	8BTV-2-CT	10BTV2-CT
Part No. (*)	469145-000	487509-000	008633-000	567513-000

Components

nVent offers a full range of components for power connections, splices and end seals. These components must be used to ensure proper functioning of the product and compliance with electrical requirements.

(*) Localized versions may exist with limited approvals and different part numbers. Contact your local sales representative

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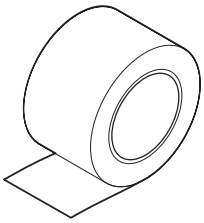
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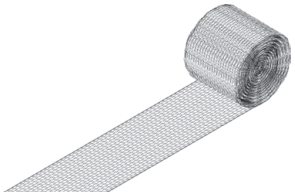
ATE-180

Aluminium tape* for attaching heating cables and thermostat sensors to pipes and tanks. Minimum installation temperature: 0°C. Also suitable for stainless steel pipes.

55 m per roll, 63.5 mm width.

PN: 846243-000 Weight: 0.84 kg

*Power output of selfregulating heating cables might increase when installed with aluminium tape or other heat transfer aids. Please use TraceCalc or contact nVent representative for further details.

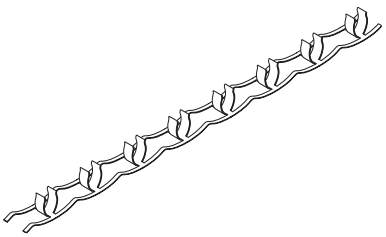


HWA-METAL-MESH-SS-50MM-10M

Stainless steel mesh for fixation of heating cables on valves, pumps or other odd-shaped surfaces. This mesh provides optimum contact and heat transfer between heating cables and heated equipment and can be used for exposure temperatures up to 400°C.

10 m per roll, 50 mm width.

PN: 1244-005772 Weight: 0.36 kg



HWA-PI-FIX- SS-xMM-10M

Stainless steel clip band to attach Polymer Insulated series heating cables to pipes. Clips at regular distances to allow for even heater spacing. Band available in two sizes for different diameter ranges.

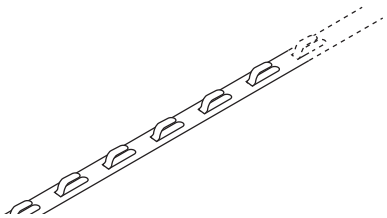
10 m per roll.

For diameters up to 5 mm, HWA-PI-FIX-SS-5MM-10M

PN: 1244-007768 Weight: 0.32 kg

For diameters up to 8 mm, HWA-PI-FIX-SS-8MM-10M

PN: 1244-007769 Weight: 0.52 kg



HARD-SPACER-SS-25MM-25M

Stainless steel spacer for fixing the heating cable on walls, tanks and vessels, etc.

Width spacer: 12.5 mm.

Fixing distance for cables: each 25 mm.

25 m per roll.

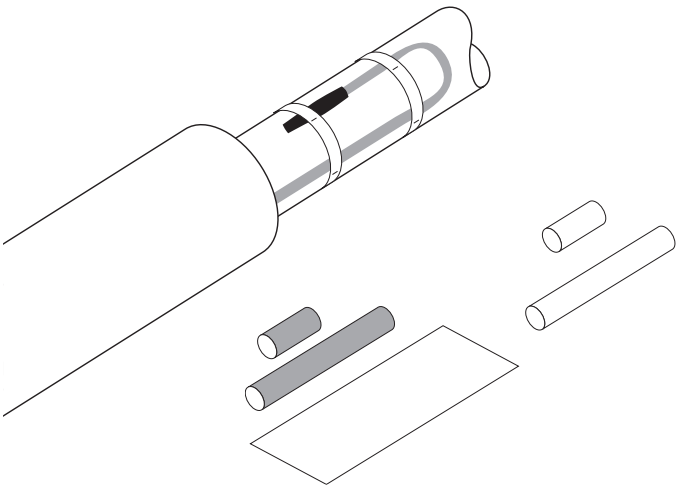
PN: 107826-000 Weight: 1.10 kg

E-20 and E-40

CONNECT AND PROTECT

Heat-shrink under insulation end seal kits

PRODUCT OVERVIEW



These end seal kits are designed for the termination of nVent RAYCHEM BTV, QTVR, XTVR, HTV and VPL self-regulating heating cables.

The nVent RAYCHEM E-20 is designed for use with BTV and QTVR heating cables and the nVent RAYCHEM E-40 is designed for use with XTVR, HTV and VPL heating cables. All kits are approved for use in hazardous areas.

The end seal kit E-20 employs easy to use heat-shrinkable tubing with an adhesive, that when heated forms a semi-flexible moisture proof encapsulation. The end seal kit E-40 employs high temperature heat-shrinkable tubing with a plastic melt liner that when heated forms a semi-flexible moisture proof encapsulation. Due to the low profile design, the finished termination can be installed directly on the pipe.

One end seal kit is required for each termination.

Application

	E-20	E-40
	End seal for BTV and QTVR self-regulating heating cables	End seal for XTVR and HTV self-regulating and VPL power-limiting heating cables

Kit contents

	Heat-shrinkable adhesive coated sleeves Installation instruction Aluminum tape	Heat-shrinkable sleeves Installation instruction

PRODUCT SPECIFICATIONS

Technical details

	E-20	E-40
Maximum exposure temperature	110°C (230°F)	260°C (500°F)
Final dimensions	Length approximately 120 mm Diameter approximately 20 mm	Length approximately 120 mm Diameter approximately 20 mm
Minimum ambient temperature	–60°C (–76°F)	–60°C (–76°F)

Installation details

Gas torch or equivalent	Minimum 1460 W hot air gun	Minimum 3000 W hot air gun
Minimum installation temperature	–20°C (–4°F)	–60°C (–76°F)

APPROVALS

For use in ordinary and hazardous area Zone 1 (Gas), Zone 21 (Dust) and Div 2

Temperature classification
Temperature classification is defined by the complete system.

Product certification

For certifications in other regions (FM, CSA, IEx etc.), please refer to the installation manual.
More details about product certification, approvals and conditions of safe use are available in the installation manual at www.nVent.com/RAYCHEM.

ORDERING INFORMATION

Part description	E-20	E-40
PN (Weight)	1244-022489 (0.03 kg)	1244-022491 (0.06 kg)

The installation of the E-40 requires a high power heat gun and an experienced installer.

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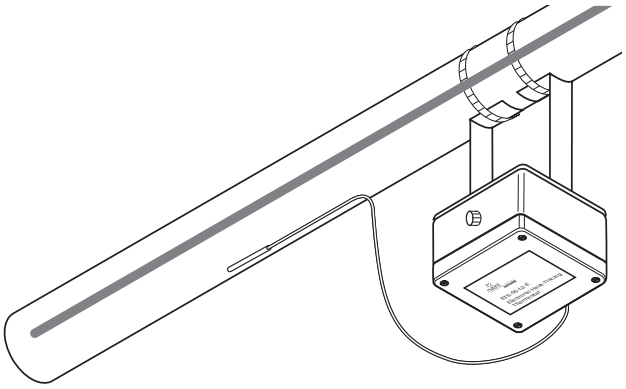
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ETS-05

CONNECT AND PROTECT

Surface and ambient sensing electronic thermostat

PRODUCT OVERVIEW



nVent RAYCHEM ETS-05 electronic surface and ambient sensing thermostat provides accurate temperature control for heating cables.

The ETS-05 is available in many versions. The ETS-05-L2-E is for temperatures up to 199°C, while the ETS-05-H2-E can be used for temperatures up to 499°C. The ETS-05-A2-E is an ambient sensing thermostat with a temperature setpoint in the range of 0°C to +49°C.

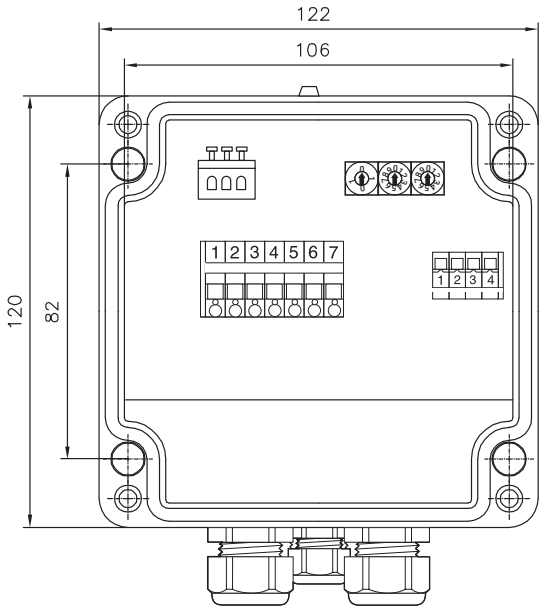
The maximum nominal load is 32 A for the thermostats. Temperature setting is accurate via digital rotary switches inside the enclosure.

The ETS-05 is available with an alarm relay for remote monitoring.

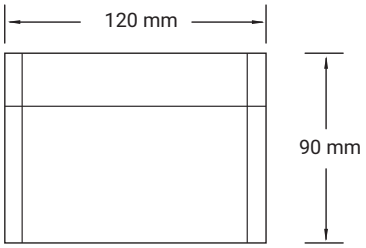
The ETS-05 has a LED indicator which indicates the status of the thermostat (powered on/off), the status of the heat-tracing cable (powered on/off) and the status of the sensor. In case of sensor failure, the thermostat can switch to an on or off state, depending upon the user's requirement.

Dimensions (in mm)

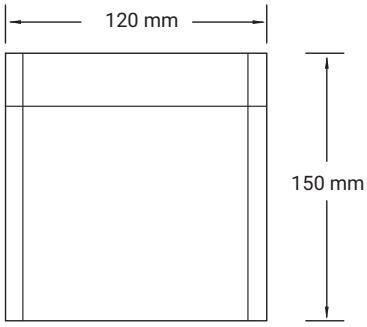
Top view



Side view



ETS-05 versions without alarming, without extended voltage range



ETS-05 versions with extended voltage range and/or alarm relay

PRODUCT SPECIFICATIONS

The following table shows the general information applicable for all versions of the ETS-05.

Maximum sensor lead resistance	20 Ohm
Ingress protection	IP66
Switching accuracy	±1 K at 5°C, 2 K at 499°C
Switching differential (Hysteresis)	≈ 3°C
Output relay	Single pole change over type (SPST)
Switching capacity	32 A resistive load
Ambient temperature range	–40°C to +60°C (ATEX / IECEx) –60°C to +60°C (EAC Ex)
Internal power consumption	3 VA
Terminal size	max. 6 mm^2
Cable gland entries	2 x M25: 1 x M25 gland for power cable in 1 x M25 rain plug for heating cable out 1 x M20 gland for alarm wire (when alarm relay is available in unit)
Sensor	The ETS-05 for ATEX/IECEx countries includes a sensor. The ETS-05 for EAC countries does not include a sensor. The sensor needs to be ordered separately.
Alarm light	Green: ETS-05 powered on, heat-tracing cable off Yellow: ETS-05 powered on, heat-tracing cable on Red flashing: Sensor failure, controller in fail-safe mode
Fail safe	Fail safe "On" and Fail Safe "Off" configurable
Weight	ETS-05 with Alarm Relay 2.38 kg Other versions: 1.64 kg

Versions

The ETS-05 is available in different versions. These are:

ETS-05-AB-CD-E
Letters ABCDE described in table below

Type description ETS-05		
"A":	Setpoint range	Temperature measurement range
A: Ambient Sensing	0°C to +49°C	–65°C to +260°C
L: Line Sensing, Low Temp.	0°C to +199°C	–65°C to +260°C
H: Line Sensing, High Temp.	0°C to +499°C	–65°C to +585°C
"B"	Voltage range	
1: 110 Vac	99-121 Vac	
1R: 110 Vac	99-132 Vac	
2: 230 Vac	195-230 Vac +10%	
2R: 277 Vac	195-277 Vac +3%	
"C"		
E: ATEX / IECEx approved (IEC countries)		
J: ATEX / IECEx approved (for Japan)		
"D"		
P: Earth Plate		
"E"		
A: Alarm Relay	NO and NC contacts	275 Vac, 3 A resistive load max
(EAC) in the product name indicates that the product has a Russian language label on it for Eurasian Customs Union countries.		
Examples: ETS-05-L2-EP: ETS-05 thermostat, setpoint range 0-199°C, 195-230 Vac, ATEX/IECEx approved, Earth Plate ETS-05-H2R-EP-A: ETS-05 thermostat, setpoint range 0-499°C, 195-277 Vac, ATEX/IECEx, Earth Plate, Alarm Relay		

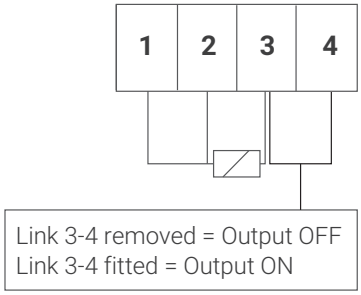
Terminals

Power terminals

1	2	3	4	5	6	7
Line Out	Neutral Out	Neutral Supply	230 V Supply	Earth	Earth	Earth

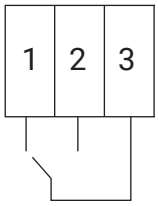
Terminals 2 and 3 are joined electrically
Terminals 5, 6 and 7 are joined electrically

Sensor/Failure mode select terminals



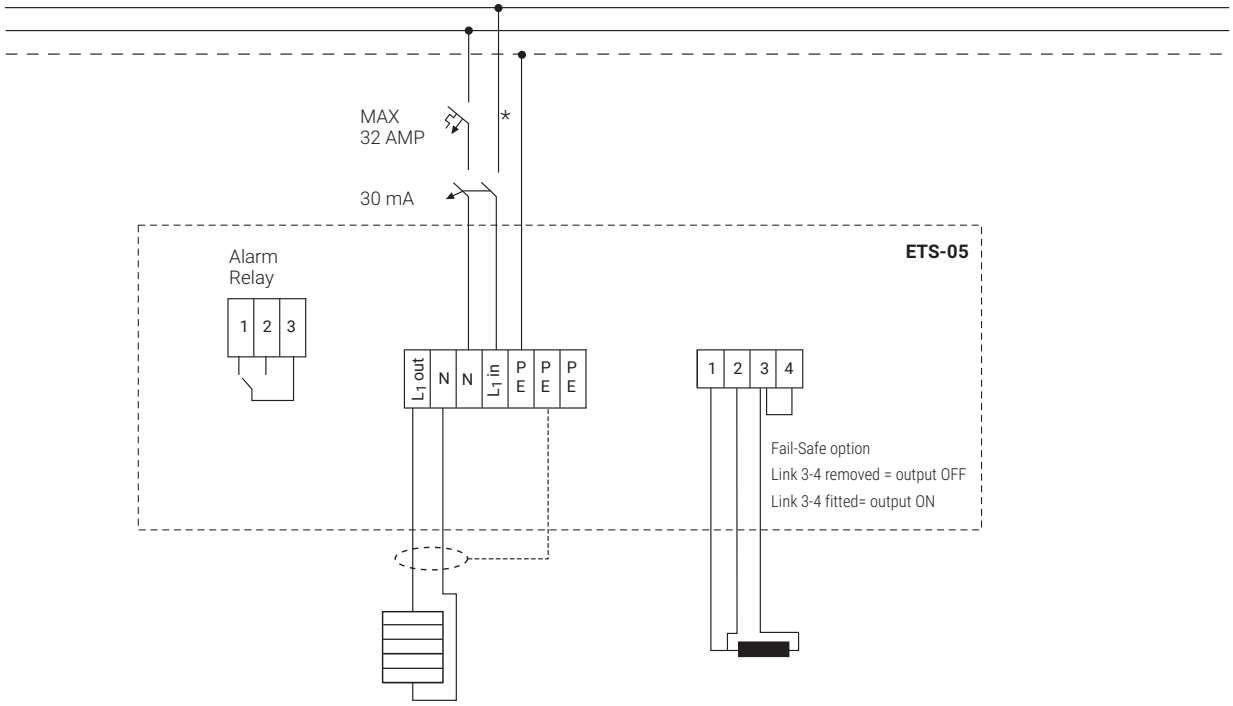
Terminals 1 to 3 allow for the connection of a three wire PT100 sensor.
Terminals 3 to 4 allow the user to select the default heating status on sensor error. Without a link fitted the heating will turn OFF if a sensor error is detected (default). With a link fitted the heating will turn ON if a sensor error is detected

Alarm relay



Healthy situation: 1-3 is closed, 2-3 is open
Alarm situation: 1-3 is open, 2-3 is closed

Typical wiring diagram for direct switching



* Circuit breaker configuration may vary according to local standards / requirements

Mounting method

Support bracket SB-100, SB-101, SB-110, SB-111, SB-130 or surface mounting with 4 fixing holes on 106 x 82 mm centers

APPROVALS

For use in ordinary and hazardous area Zone 1 and Zone 2 (Gas), Zone 21 and Zone 22 (Dust)

Temperature classification
T5

Product certification

More details about product certification, approvals and conditions of safe use are available in the installation manual at www.nVent.com/RAYCHEM.

ORDERING DETAILS

Product Name	Part Number
ETS-05-L2-E	1244-014367
ETS-05-H2-E	1244-014368
ETS-05-A2-E	1244-022311
ETS-05-L2-EP	1244-017508
ETS-05-H2-EP	1244-017509
ETS-05-A2-E-A	1244-022663
ETS-05-L2-EP-A	1244-022669
ETS-05-H2-EP-A	1244-022670
ETS-05-H2R-EP-A	1244-022680

Product Name	Part Number
ETS-05-L2-E (EAC)	1244-022701
ETS-05-H2-E (EAC)	1244-022702
ETS-05-A2-E (EAC)	1244-022700
ETS-05-L2-EP (EAC)	1244-022703
ETS-05-H2-EP (EAC)	1244-022704
ETS-05-A2-E-A (EAC)	1244-022710
ETS-05-L2-EP-A (EAC)	1244-022713
ETS-05-H2-EP-A (EAC)	1244-022714
ETS-05-H2R-EP-A (EAC)	1244-022719

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LAB-EX-XTV-KTV

Aluminum tag plate for XTV and KTV self-regulating heating cables. To be installed if T-class compliance was proven by stabilized design and not by unconditional T-rating.

PN: 1244-011961 Weight: 0.04 kg

LAB-EX-FxT

Aluminum tag plate. To be installed when parallel constant wattage FMT or FHT heating cables are used in hazardous areas.

PN: 1244-006953 Weight: 0.04 kg

PI-LABEL-EX

Aluminum tag plate. To be installed when series polymer insulated XPI & XPI-S heating cables are used in hazardous areas.

PN: 1244-006940 Weight: 0.04 kg

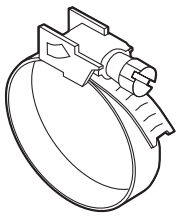
PI-LABEL-NH

Aluminum tag plate. To be installed when series polymer insulated XPI & XPI-S heating cables are used non hazardous areas.
This label is not mandatory but highly recommended for future reference.

PN: 1244-006941 Weight: 0.04 kg

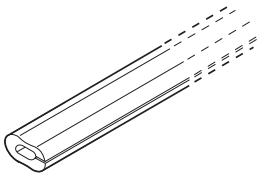
PIPE STRAPS

Metal straps for pipe mounting of integrated power connections, above the insulation tees and end seals as well as support brackets and the tubular insulation entry. Banding: stainless steel



Pipe outer diameter in mm	(inches)	Pipe strap	PN (Weight)
20 - 47	(1/2" - 11/4")	PSE-047	700333-000 (0.017 kg)
40 - 90	(11/4" - 3")	PSE-090	976935-000 (0.024 kg)
60 - 288	(2" - 10")	PSE-280	664775-000 (0.052 kg)
60 - 540	(2" - 20")	PSE-540	364489-000 (0.052 kg)

PIPE STRAPS



G-02

Silicone grommet that protects the heating cable at sharp edges such as endplates of insulation cladding, flanges etc. It can be cut-to-length and resists temperatures up to 215°C.

Sold in pieces of 1 m.

PN: 412549-000 Weight: 0.37 kg/m)

FIXING MATERIALS

Self-adhesive tape for fixing the heating cables on pipes or other equipment.



GT-66

Glass cloth tape for attaching heating cable to pipe.
Not for stainless steel pipes or for installation temperatures below 5°C.

20 m per roll, 12 mm width.

PN: C77220-000 Weight: 0.053 kg

GS-54

Glass cloth tape for attaching heating cable to pipe.

For stainless steel pipes or for any installation below 5°C.

16.5 m per roll, 12 mm width.

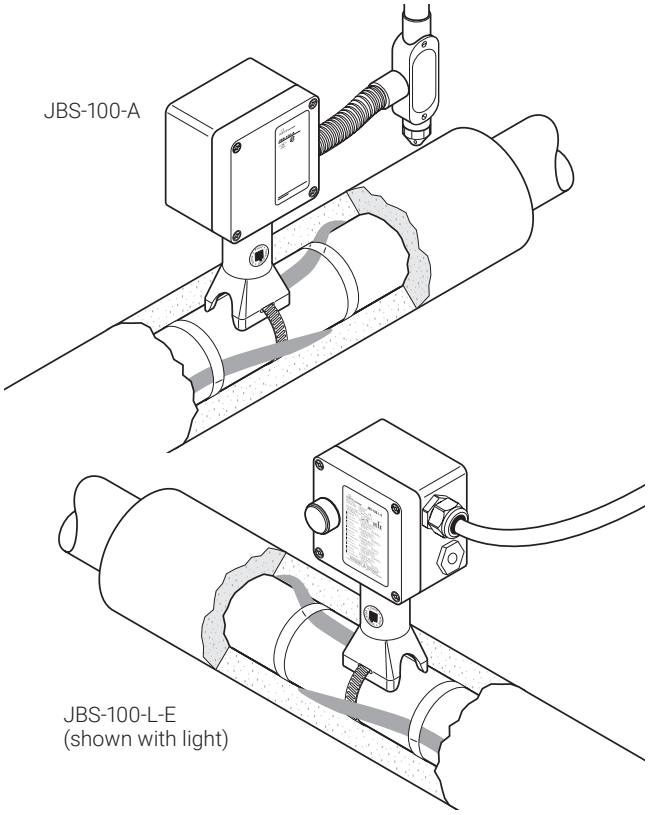
PN: C77221-000 Weight: 0.048 kg

JBS-100

CONNECT AND PROTECT

Single-Entry power connection with junction box

PRODUCT OVERVIEW



The nVent RAYCHEM JBS-100 kit is designed to connect power to a single nVent RAYCHEM BTV, QTVR, XTVR, HTV or VPL industrial parallel heating cable.

The JBS-100 integrates the functions of both connection kits and insulation entries. The rugged stand protects the heating cable and allows for up to 100 mm (4") of thermal insulation.

The core sealing boot does not require a heat gun or torch for the installation (no hot work permit necessary). The non-curing sealant (silicone free) in the boot allows easy installation and facilitates maintenance.

Spring-type terminals provide fast installation and safe, reliable, maintenance-free operation. This connection kit significantly reduces installation time. The kit is offered in three basic versions, customised for local installation practices. All kits are also available as a lighted version. These include a unique light module with a superbright LED that simply plugs into the terminals, and a lens in the lid. This provides indication that power is available in the box. There is also a connection kit with drain plug available.

Description

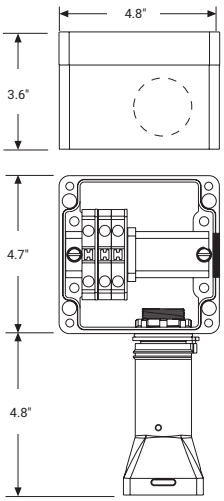
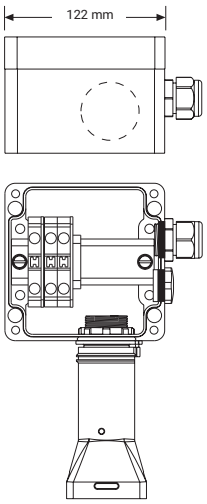
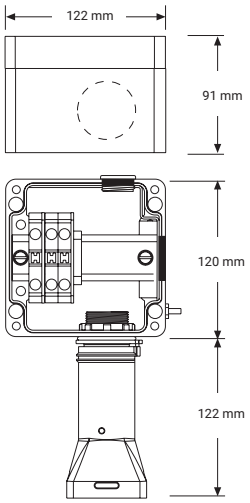
JBS-100-A **JBS-100-L-A**	**JBS-100-E** **JBS-100-L-E** **JBS-100-D-E**	**JBS-100-EP** **JBS-100-L-EP**
This connection system is certified for use in North America and has one through-hole for use with ¾" conduit.	This connection system is certified for use in IEC regions and provides two M25 threaded entries, one stopping plug, and one plastic power cable gland.	This connection system is certified for use in IEC regions and provides two M25 threaded entries, an earthing plate, and an external earthing stud. It is designed for use with armoured cables.

Kit contents

JBS-100-A JBS-100-L-A	JBS-100-E JBS-100-L-E JBS-100-D-E	JBS-100-EP JBS-100-L-EP
1 junction box with terminals	1 junction box with terminals	1 junction box with terminals, earth plate, and stud
1 light module (for -L only)	1 light module (for -L only)	1 light module (for -L only)
1 stand	1 stand	1 stand
1 core sealer	1 core sealer	1 core sealer
1 green/yellow earthing sleeve	1 green/yellow earthing sleeve	1 green/yellow earthing sleeve
1 polywater sachet	1 M25 gland for power cable 8-15 mm in diameter (temperature range –55°C / 70°C)	1 M25 stopping plug
1 cable tie	1 M25 stopping plug	1 polywater sachet
	1 polywater sachet	1 cable tie
	1 cable tie	
	1 ATEX/IECEx Certified drainplug (for JBS-100-D-E only)	

PRODUCT SPECIFICATIONS

Dimensions (nominal)

	JBS-100-A JBS-100-L-A	JBS-100-E JBS-100-L-E JBS-100-D-E	JBS-100-EP JBS-100-L-EP
			

Technical details

	JBS-100-A JBS-100-L-A	JBS-100-E JBS-100-L-E JBS-100-D-E	JBS-100-EP JBS-100-L-EP
Heating cable capability	BTV-CR, BTV-CT, QTVR-CT, XTVR-CT, HTV-CT, VPL-CT		
Ingress protection	IP66	IP66	IP66
Entries	1 x ¾"	2 x M25	2 x M25
Ambient temperature range	−55°C to +56°C (JBS-100-A) −40°C to +40°C (JBS-100-L-A)	−55°C to +56°C* (JBS-100-E and JBS-100-D-E) −40°C to +40°C (JBS-100-L-E)	−55°C to +56°C* (JBS-100-EP) −40°C to +40°C (JBS-100-L-EP)
	* Extra conditions for safe use apply at ambient temperatures >40°C. Temperature resistant power cable and metal glands must be used. Please refer to the certificate or installation instructions for full details.		
Max. pipe temperature	Refer to heating cable specification		
Terminals	Spring-type terminals 2 line, 1 ground	Spring-type terminals 1 phase, 1 neutral, 1 earth	Spring-type terminals 1 phase, 1 neutral, 1 earth
Max. conductor size	8 AWG stranded	10 mm^2 stranded, 10 mm^2 solid	10 mm^2 stranded, 10 mm^2 solid
Max. operating voltage	480 Vac*	480 Vac*	480 Vac*
	* JBS-100-L-E, JBS-100-L-EP and JBS-100-L-A are limited to 277 Vac. Extra conditions for safe use apply for voltages higher than 277 Vac. Please refer to the certificate or installation instructions for full details.		
Max. continuous operating current (***)	53 A	53 A	53 A

(***) For pipe temperature >150°C and <260°C and XTVR or HTV heating cables, the maximum operating current shall be reduced to maximum 20 A.

Materials of construction

Enclosure, lid, and stand	Electrostatic charge-resistant glass-filled engineered polymer, black	Electrostatic charge-resistant glass-filled engineered polymer, black	Electrostatic charge-resistant glass-filled engineered polymer, black
Lid screws	Stainless steel	Stainless steel	Stainless steel
Lid gasket	Silicone rubber	Silicone rubber	Silicone rubber
Earth continuity plate	N/A	N/A	Steel, zinc plated, and blue chromated

Optional LED indicator light

Colour	Red	Green	Green
Voltage rating	100-277 Vac	100-277 Vac	100-277 Vac
Power consumption	< 1 W	< 1 W	< 1 W

APPROVALS

For use in ordinary and hazardous area Zone 1 and Zone 2 (Gas), Zone 21 and Zone 22 (Dust) (and Class I Div 2).

Temperature classification

Temperature classification is defined by the complete system.

Product certification

For certifications in other regions (FM, CSA, IEx etc.), please refer to the installation manual.

More details about product certification, approvals and conditions of safe use are available in the installation manual at www.nVent.com/RAYCHEM.

ORDERING INFORMATION**

Power connection

Part Description	JBS-100-A	JBS-100-E	JBS-100-EP
PN (Weight)	085947-000 (2.5 lb)	829939-000 (1.2 kg)	158251-000 (1.3 kg)

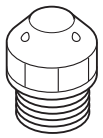
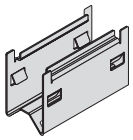
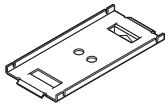
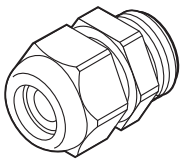
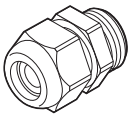
Power connection with light

Part Description	JBS-100-L-A	JBS-100-L-E	JBS-100-L-EP
PN (Weight)	944699-000 (3.5 lb)	054363-000 (1.6 kg)	075249-000 (1.7 kg)

Power connection with drain plug

Part Description		JBS-100-D-E	
PN (Weight)		1244-021057 (1.4 kg)	

Accessories

Conduit Drain ¾"	Prevents condensate from collecting in the box	
Catalog number	JB-DRAIN-PLUG-3/4IN	
Part Number	278621-000	
Weight	0.074 lb / 36 g	
Junction box standoff	For insulation thickness >100 mm & ≤150 mm *	
Catalog number	JBM-100-STANDOFF	
Part Number	P000003408	
Weight	0.279 lb / 135 g	
* Consider extra pipe strap length 6-9" (150-225 mm) for attachment		
Small pipe adapter	Required for stand on pipes ≤ 1"	
Catalog number	JBM-SPA	
Part Number	E90515-000	
Weight	0.408 lb / 185 g (Bag of 5 adaptors)	
Glands for power cables	Hazardous area approved gland for cables 8-15 mm (temperature range –55°C/70°C)	
Catalog number	GL-55-M25	
Part Number	1244-019083	
Weight	0.016 kg	
Glands for power cables	Hazardous area approved gland for cables 8-17.5 mm (temperature range –20°C/70°C)	
Catalog number	GL-36-M25	
Part Number	1244-019082	
Weight	0.016 kg	

(**) Localized versions may exist with limited approvals and different part numbers. Contact your local sales representative.

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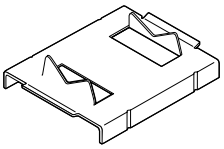
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SMALL PIPE ADAPTORS



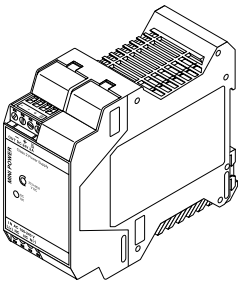
JBS-SPA

Small pipe adaptor required for pipes ≤ 1" (DN25), applicable for JBS-100, E-100, E-100-L
E90515-000 (bag of 5 adaptors) Weight: 0.14 kg

JBM-SPA

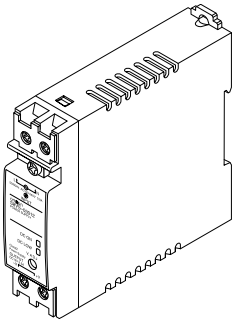
Small pipe adaptor required for pipes ≤ 1" (DN25), applicable for JBM-100, T-100
D55673-000 (bag of 5 adaptors) Weight: 0.40 kg

POWER SUPPLY



MONI-RMC-PS24

24 Vdc stabilized power supply
Wide range input (100 - 240 Vac) power supply to provide
24 Vdc input for MONI- RMC-BASE.
Surface or DIN 35 rail mounted.
PN: 972049-000 Weight: 0.28 kg



MONI-PS12

12 Vdc stabilized power supply
Wide range input (100 - 240 Vac) power supply to provide 12 Vdc input for the nVent RAYCHEM NGC-30-CRM-E and nVent RAYCHEM NGC-30-CRMS-E cards.
DIN 35 rail mountable.
PN: 1244-001505 Weight: 0.18 kg

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LABELS AND TAGS

Warning labels indicate the presence of electrical heat-tracing under the insulation of the pipe or other equipment.
(min. of 1 label per 5 m of heat-tracing line). Also suitable for stainless steel pipes.



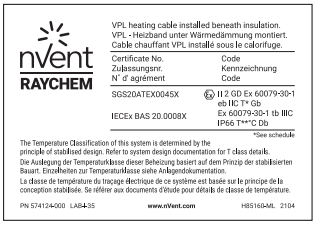
Language	EHT label reference	Product number
Arabian	LAB-ETL-AR	036236-000
Bulgarian	LAB-ETL-BG	1244-002183
Czech	LAB-ETL-CZ	731605-000
Danish	LAB-ETL-DK	C97690-000
Dutch	LAB-ETL-NL	749153-000
English	LAB-I-01	938947-000
Estonian/English	LAB-ETL-EN/EE	1244-001415
Finnish/Swedisch	LAB-ETL-SE/FI	756479-000
French	LAB-I-05	883061-000
German/French/Italian (230V)	LAB-ETL-DE/FR/IT	148648-000
German	LAB-ETL-DE	597779-000
Hungarian	LAB-ETL-HU	623725-000
Italian	LAB-ETL-IT	C97688-000
Kazakh/Russian/English	LAB-ETL-KZ/RU/EN	1244-017393
Latvian	LAB-ETL-LV	841822-000
Lithuanian	LAB-ETL-LT	105300-000
Norwegian	LAB-ETL-NO	C97689-000
Norwegian/English	LAB-ETL-EN/NO	165899-000
Polish	LAB-ETL-PL	258203-000
Portugese	LAB-ETL-PT	945960-000
Romanian	LAB-ETL-RO	902104-000
Russian	LAB-ETL-RU	574738-000
Russian/English	LAB-ETL-EN/RU	1244-001060
Russian/English/Azeri	LAB-ETL-AZ/RU/EN	1244-012283
Russian/English/Uzbek	LAB-ETL-UZ/RU/EN	1244-022143
Spanish	LAB-ETL-ES	C97686-000
Swedish	LAB-ETL-SE	691703-000
Turkish/English	LAB-ETL-EN/TR	1244-014860



Language	Component label reference	Product number
English	LAB-I-02	774499-000
Russian/English	LAB-I-02/E/R LAB-ENDSEAL	1244-001059 146909-000
English	ETL-END-SEAL LAB-SPLICE	103405-000 007063-000

STABILIZED DESIGN LABELS

If compliance to the T-class or A.I.T. cannot be achieved by the unconditional T-rating
of the heating cable, the hazardous area regulations require that cable sheath temperature is determined by the rules of stabilized design as per EN 60079-30 and the heating circuit is marked accordingly. The following labels are available for this purpose (min.1 label per heating circuit)



LAB-I-35

Stabilized design sticker. To be installed when power-limiting VPL heating cables are used in hazardous areas.

PN: 574124-000 Weight: 0,0015 kg

LAB-EX-XTV-KTV

Aluminum tag plate for XTV and KTV self-regulating heating cables. To be installed if T-class compliance was proven by stabilized design and not by unconditional T-rating.

PN: 1244-011961 Weight: 0.04 kg

LAB-EX-FxT

Aluminum tag plate. To be installed when parallel constant wattage FMT or FHT heating cables are used in hazardous areas.

PN: 1244-006953 Weight: 0.04 kg

PI-LABEL-EX

Aluminum tag plate. To be installed when series polymer insulated XPI & XPI-S heating cables are used in hazardous areas.

PN: 1244-006940 Weight: 0.04 kg

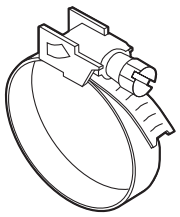
PI-LABEL-NH

Aluminum tag plate. To be installed when series polymer insulated XPI & XPI-S heating cables are used non hazardous areas.
This label is not mandatory but highly recommended for future reference.

PN: 1244-006941 Weight: 0.04 kg

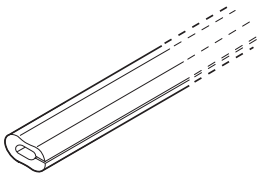
PIPE STRAPS

Metal straps for pipe mounting of integrated power connections, above the insulation tees and end seals as well as support brackets and the tubular insulation entry. Banding: stainless steel



Pipe outer diameter in mm	(inches)	Pipe strap	PN (Weight)
20 - 47	(1/2" - 11/4")	PSE-047	700333-000 (0.017 kg)
40 - 90	(11/4" - 3")	PSE-090	976935-000 (0.024 kg)
60 - 288	(2" - 10")	PSE-280	664775-000 (0.052 kg)
60 - 540	(2" - 20")	PSE-540	364489-000 (0.052 kg)

PIPE STRAPS



G-02

Silicone grommet that protects the heating cable at sharp edges such as endplates of insulation cladding, flanges etc. It can be cut-to-length and resists temperatures up to 215°C.

Sold in pieces of 1 m.

PN: 412549-000 Weight: 0.37 kg/m)

FIXING MATERIALS

Self-adhesive tape for fixing the heating cables on pipes or other equipment.



GT-66

Glass cloth tape for attaching heating cable to pipe.
Not for stainless steel pipes or for installation temperatures below 5°C.

20 m per roll, 12 mm width.

PN: C77220-000 Weight: 0.053 kg

GS-54

Glass cloth tape for attaching heating cable to pipe.

For stainless steel pipes or for any installation below 5°C.

16.5 m per roll, 12 mm width.

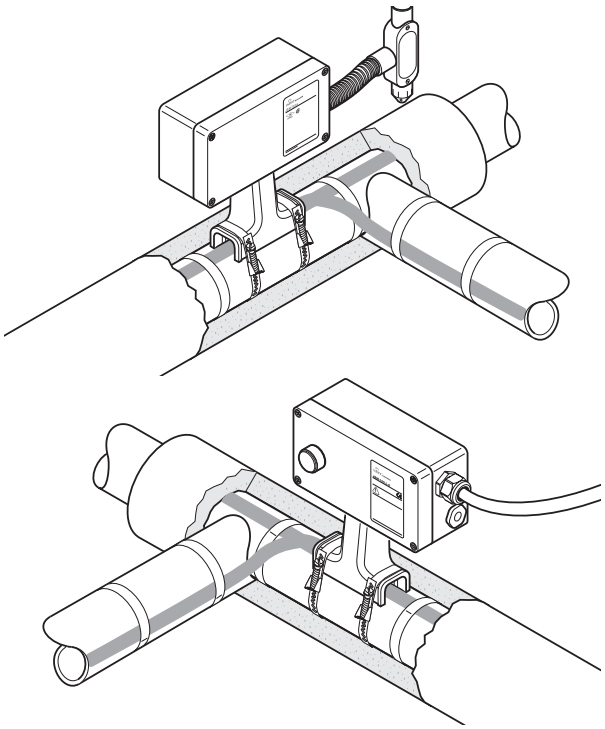
PN: C77221-000 Weight: 0.048 kg

JBM-100

CONNECT AND PROTECT

Multiple-Entry Power/Tee Connection with Junction Box

PRODUCT OVERVIEW



The nVent RAYCHEM JBM-100 kit is designed to connect power to up to three nVent RAYCHEM BTV, QTVR, XTVR, HTV, or VPL industrial parallel heating cables.

The JBM-100 integrates the functions of both connection kits and insulation entries. The rugged stand protects the heating cable and allows for up to 100 mm (4") of thermal insulation.

The core sealing boot does not require a heat gun or torch for the installation (no hot work permit necessary). The non-curing sealant (silicone free) in the boot allows easy installation and facilitates maintenance.

Spring-type terminals provide fast installation and safe, reliable, maintenance-free operation. This connection kit significantly reduces installation time.

The kit is offered in three basic versions, customised for local installation practices. All kits are also available as a lighted version. These include a unique light module with a superbright LED that simply plugs into the terminals, and a lens in the lid. This provides indication that power is available in the box. There is also a connection kit with drain plug available.

Description

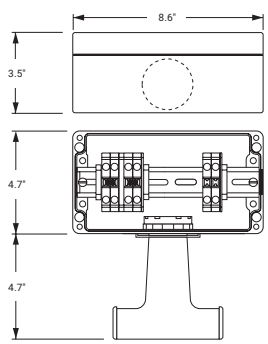
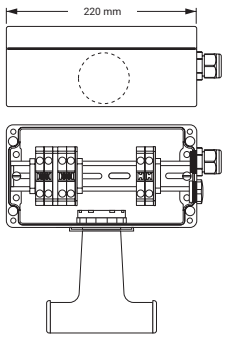
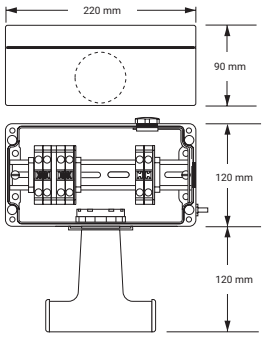
JBM-100-A JBM-100-L-A	JBM-100-E JBM-100-L-E JBM-100-D-E	JBM-100-EP JBM-100-L-EP
This connection system is certified for use in North America and has one ¾" through holes for use with ¾" conduit. One stopping plug is supplied in the kit.	This connection system is certified for use in IEC regions and provides two M25 threaded entries, one stopping plug, and one plastic power cable gland.	This connection system is certified for use in IEC regions and provides two M25 threaded entries, an earthing plate, and an external earthing stud. It is designed for use with armoured cables.

Kit contents

1 junction box with terminals 1 light module (for -L only) 1 stand 3 core sealers 3 green/yellow earthing sleeve 1 ¾" stopping plug 1 polywater sachet 1 spanner 1 strain relief assembly 2 grommet plugs	1 junction box with terminals 1 light module (for -L only) 1 stand 3 core sealers 3 green/yellow earthing sleeve 1 M25 gland for power cable 8-15 mm (temperature range –55°C to +70°C) in diameter 1 M25 stopping plug 1 polywater sachet 1 spanner 1 strain relief assembly 2 grommet plugs 1 ATEX/IECEx Certified drainplug (for JBM-100-D-E only)	1 junction box with terminals, earth continuity plate, and stud 1 light module (for -L only) 1 stand 3 core sealers 3 green/yellow earthing sleeve 2 M25 stopping plugs 1 polywater sachet 1 spanner 1 strain relief assembly 2 grommet plugs

PRODUCT SPECIFICATIONS

Dimensions (nominal)

	JBM-100-A JBM-100-L-A	JBM-100-E JBM-100-L-E JBM-100-D-E	JBM-100-EP JBM-100-L-EP
			

Technical details

Heating cable capability	BTV-CR, BTV-CT, QTVR-CT, XTVR-CT, HTV-CT, VPL-CT		
Ingress protection	IP66	IP66	IP66
Entries	1 x ¾"	2 x M25	2 x M25
Ambient temperature range	−55°C to +56°C (JBM-100-A) −40°C to +40°C (JBM-100-L-A)	−55°C to +56°C* (JBM-100-E and JBM-100-D-E) −40°C to +40°C (JBM-100-L-E)	−55°C to +56°C* (JBM-100-EP) −40°C to +40°C (JBM-100-L-EP)
	*Extra conditions for safe use apply at ambient temperatures >40°C. Temperature resistant power cable and metal glands must be used. Please refer to the certificate or installation instructions for full details.		
Max. pipe temperature	Refer to heating cable specification		
Terminals	Spring-type terminals 4 line, 2 ground	Spring-type terminals 2 phase, 2 neutral, 2 earth	Spring-type terminals 2 phase, 2 neutral, 2 earth
Max. conductor size	8 AWG stranded	10 mm^2 stranded, 10 mm^2 solid	10 mm^2 stranded, 10 mm^2 solid
Max. operating voltage	480 Vac*	480 Vac*	480 Vac*
	*JBM-100-L-E, JBM-100-L-EP and JBM-100-L-A are limited to 277 Vac. Extra conditions for safe use apply for voltages higher than 277 Vac. Please refer to the certificate or installation instructions for full details.		
Max. continuous operating current (***)	53 A	53 A	53 A

(***) For pipe temperature > 150°C and <260°C and XTVR or HTV heating cables, the maximum operating current shall be reduced to maximum 20 A.

Materials of construction

Enclosure, lid, and stand	Electrostatic charge-resistant glass-filled engineered polymer, black	Electrostatic charge-resistant glass-filled engineered polymer, black	Electrostatic charge-resistant glass-filled engineered polymer, black
Lid screws	Stainless steel	Stainless steel	Stainless steel
Lid gasket	Silicone rubber	Silicone rubber	Silicone rubber
Earth continuity plate	N/A	N/A	Steel, zinc plated, and blue chromated

Optional LED indicator light

	JBM-100-A JBM-100-L-A	JBM-100-E JBM-100-L-E JBM-100-D-E	JBM-100-EP JBM-100-L-EP
Colour	Red	Green	Green
Voltage rating	100-277 Vac	100-277 Vac	100-277 Vac
Power consumption	< 1 W	< 1 W	< 1 W

Ordering details (**)

APPROVALS (**)

For use in ordinary and hazardous area Zone 1 and Zone 2 (Gas), Zone 21 and Zone 22 (Dust) and Class I Div 1 & 2

Temperature classification

Temperature classification is defined by the complete system.

Product certification

For certifications in other regions (FM, CSA, IEx etc.), please refer to the installation manual. More details about product certification, approvals and conditions of safe use are available in the installation manual www.nVent.com/RAYCHEM.

ORDERING INFORMATION

Power connection

Part Description (**)	JBM-100-A	JBM-100-E	JBM-100-EP
PN (Weight)	179935-000 (4.3 lb)	831519-000 (1.9 kg)	986415-000 (2.1 kg)

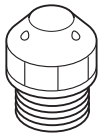
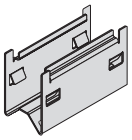
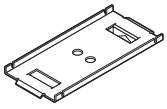
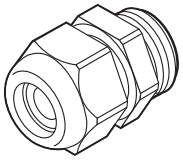
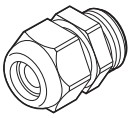
Power connection with light

Part Description	JBM-100-L-A	JBM-100-L-E	JBM-100-L-EP
PN (Weight)	656081-000 (5.3 lb)	395855-000 (2.3 kg)	300273-000 (2.5 kg)

Power connection with drain plug

Part Description		JBM-100-D-E	
PN (Weight)		1244-021056 (2.1 kg)	

Accessories

Conduit Drain ¾"	Prevents condensate from collecting in the box	
Catalog number	JB-DRAIN-PLUG-3/4IN	
Part Number	278621-000	
Weight	0.074 lb / 36 g	
Junction box standoff	For insulation thickness >120 mm & ≤180 mm *	
Catalog number	JBM-100-STANDOFF	
Part Number	P000003624	
Weight	0.599 lb / 272 g	
* Consider extra pipe strap length 6-9" (150-225 mm) for attachment		
Small pipe adapter	Required for stand on pipes ≤ 1"	
Catalog number	JBM-SPA	
Part Number	D55673-000	
Weight	0.930 lb / 422 g (Bag of 5 adaptors)	
Glands for power cables	Hazardous area approved gland for cables 8-15 mm (temperature range –55°C/70°C)	
Catalog number	GL-55-M25	
Part Number	1244-019083	
Weight	0.016 kg	
Glands for power cables	Hazardous area approved gland for cables 8-17.5 mm (temperature range –20°C/70°C)	
Catalog number	GL-36-M25	
Part Number	1244-019082	
Weight	0.016 kg	

(**) Localized versions may exist with limited approvals and different part numbers. Contact your local sales representative.

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