

**QAA-073-B s en**  
**Mounting and Operating Instructions**  
**for Ex-It-JB/NA Junction Box and Mounting Post**  
**Kit for Pipes**

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**A) Product description**

1. Technical Data  
 Equipment Group: Zone 1 Ex / AEx eb IIC Gb  
 Zone 21 Ex / AEx tb IIIC Db

Operating Temp. Range: -4°F to 212°F (- 20°C to + 100°C; adaptor)  
 -4°F to 392°F (- 20°C to + 200°C; mounting post)  
 -45°F to 104°F (- 50°C to + 40°C; junction box)

Material: GRP  
 IP Rating: 65  
 Nominal Voltage: 550 V  
 Nominal Current: 32 A

**Drillings and blind plugs:**

Drillings: 3 x 3/4" \*  
 Blind plugs: 2 x 3/4" (preassembled in 2 of 3 drillings)

\*Third drilling needs to get filled by a certified 3/4" blind plug or 3/4" screwing.

**Terminals:**

Terminal Size AWG (mm <sup>2</sup> )	Conductor Cross Section (mm <sup>2</sup> )	Current (A)
AWG 10 (6)	AWG 20- AWG 8 (0.5 – 10)	32



Weight: approx. 1.2 kg  
 Impact Resistance: min. 7J  
 Cable entries mounting post: 3 x flat; 1 x round

possible heater /  
 sensor cable dimensions: (1/8" – 13/62"; 5/32" x 7/16" – 7/32" x 9/16")  
 (3 – 5 mm; 4 x 11 mm – 5.5 x 14 mm)

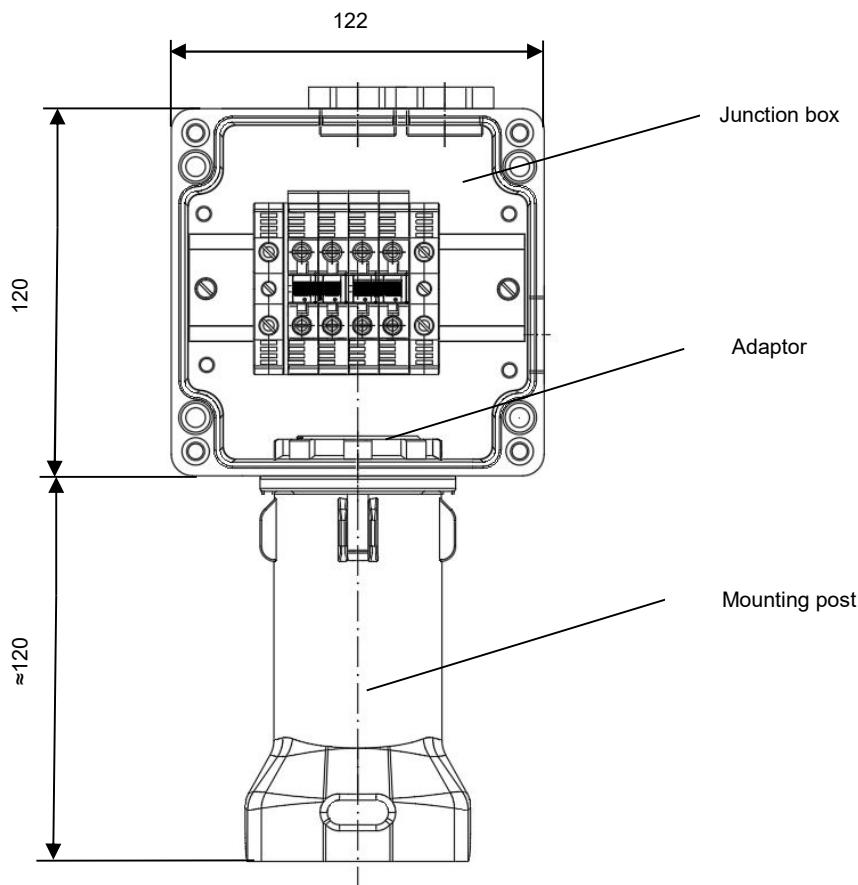
possible  
 jacket materials: TPE; Fluoropolymer

possible  
 pipe diameters: >= 3/4" (20 mm)

max. width of  
 tightening strap: 5/8" (16 mm)

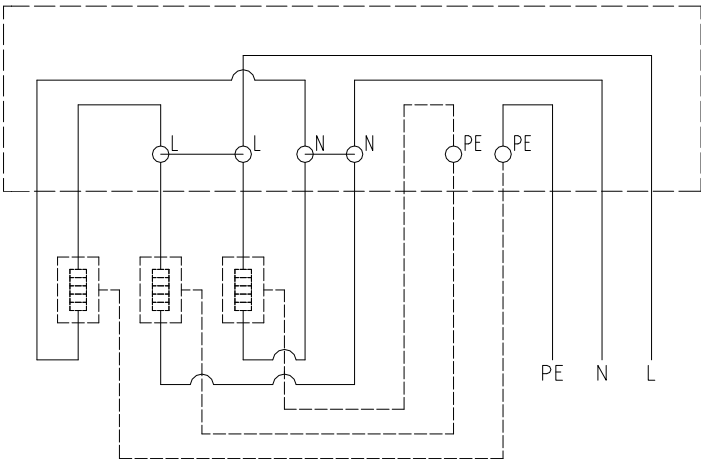
max. insulation thickness 4" (100 mm)

### Dimensional Drawings





**Wiring Diagram**





**Attention:** the following steps should only be carried out by workers trained for the handling of Ex-equipment and protective systems.

## 2. Receipt of Equipment:

On receipt of the goods check the junction box and the accessories and compare with the data on the delivery note to ensure that the correct material was supplied.

The identification marking of the mounting post reads:

eltherm GmbH Burbach Ex-It-NA  
Zone 1 AEx / Ex eb IIC Gb      Zone 21 AEx / Ex tb IIC Db

The identification marking of the connection box reads:

Enclosure Type 4X Boîtier de type 4X  
Class I, Division 2, Groups A, B, C & D T6  
Class I, Zone 1, Ex e IIC T6

### **WARNING! EXPLOSION HAZARD**

Substitution of components may impair suitability for Class I, Division 2  
Do not connect while circuit is live unless area is known to be nonhazardous

### **ATTENTION! RISQUE D'EXPLOSION**

La substitution de composants peut altérer l'aptitude de Classe I, Division 2  
Ne branchez pas lorsque le circuit est sous tension sauf si la  
zone est connue pour être non dangereux

## 3. Storage:

The goods have to be stored in a dry place at an ambient temperature of 32°F to 122°F (0 ... +50°C).

## 4. Installation:

- check all components of Ex-It-NA and the inserted / attached seals for integrity and cleanness
- observe the order of the installation steps shown in part B) installation guide!
- choose the installation site carefully with respect to the mechanical withstand of enclosure and cable entries and with respect to the permitted ambient temperature range
- make sure to mount mounting post to suitable pipes only (OD  $\geq$  13/16" ( $\geq$  20 mm))
- provide sufficient allowance for trace heater
- do not fasten lock of tightening strap with a wrench (risk of damage to mounting post). Use screwdriver only!
- if cables are removed from an already mounted Ex-It-NA, there will be holes in the internal seal of the mounting post: the relevant entry needs to be filled with another cable or the seal needs to be replaced
- round cables that have been fed through the mounting post need to be secured inside the enclosure in order to provide sufficient strain relief

- fixed installation of all cables is required
- all electrical connections are to be made after installation of a suitably rated enclosure (separate) on top of the Ex-It-NA mounting post via the associated adaptor only.
- terminals which are not in use need to be fastened
- entry threads may be reduced by a suitable reduction gland. Reduction glands must not be interleaved (see documentation of enclosure)
- All openings (cover, threaded holes, cable entries) are to be tightly closed after connection of the cables. Any given torques are to be observed (see documentation of enclosure)

**Attention:** excessive tightening of glands can compromise the IP rating!

## 5. Testing:

the below listed steps are to be followed after completion of the heating circuit installation:

- visual check of the Ex-It-JB/NA for possible mechanical damage. Damaged components must not be taken into operation and need to be exchanged
- check of all components for proper fit. Make sure both detent hooks of the adapter have interlocked in the second groove of the mounting post
- check of the lid of the enclosure (separate) and of the attached cable entries for tight fit and correct sealing. Make sure both detent hooks have interlocked in the adequate rack of the enclosure. All holes must be closed by means of appropriate devices rated “Ex eb” and “Ex tb”

## 6. Operation and Maintenance:

- the effective regulations regarding the operation of electrical equipment in hazardous areas shall be observed
- operation is only permitted within the limits given in chapter 1 „Technical Data“ and on the label (Voltage, Current, Operating Temperature, Ambient Temperature, IP Rating)
- in order to prevent electrostatic charging, clean mounting post with a damp cloth only. The mounting post needs to be inserted at least 20 mm deep into the thermal insulation of the pipe
- a visual check of Ex-It-JB/NA for integrity and proper fit is recommended in suitable intervals (depending on the operating and environmental conditions). If required, cable entries are to be tightened; damaged components are to be replaced by experienced personnel
- in case of required disassembly of the junction box, open the lid, remove all terminated cable and unscrew the 1¼“ locknut. The junction box can now be removed

**Attention:**

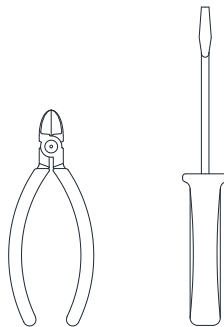
The junction box (and also the cable entries!) must not be opened while energized.

- if repair work is done on heated components, the Ex-It-JB/NA has to be protected against damages

- after completion of repair works on heated components, Ex-It-JB/NA has to be tested again according to chapter 5 “Testing”
- damaged Ex-It-JB/NA must not be operated.

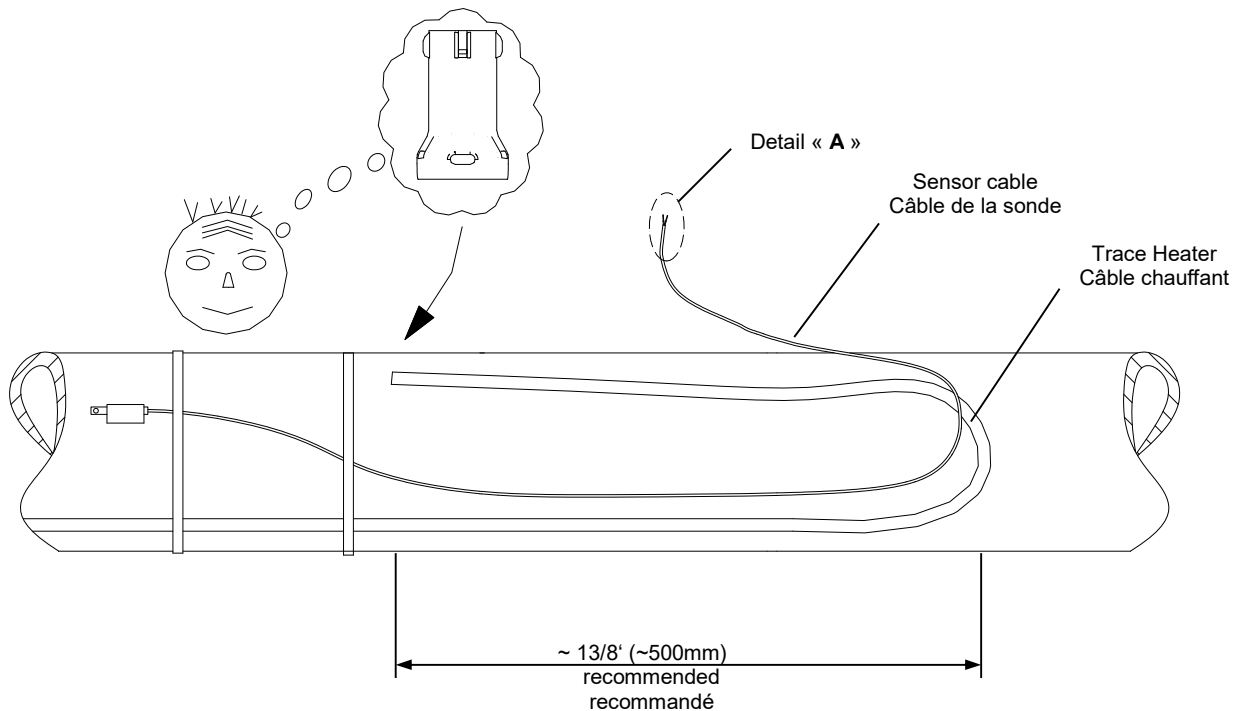
## B) Installation guide

### 1. Recommended tools



*All Steps to be done by experienced personnel only!  
 After completion: check insulation resistance and measure heater resistance!*

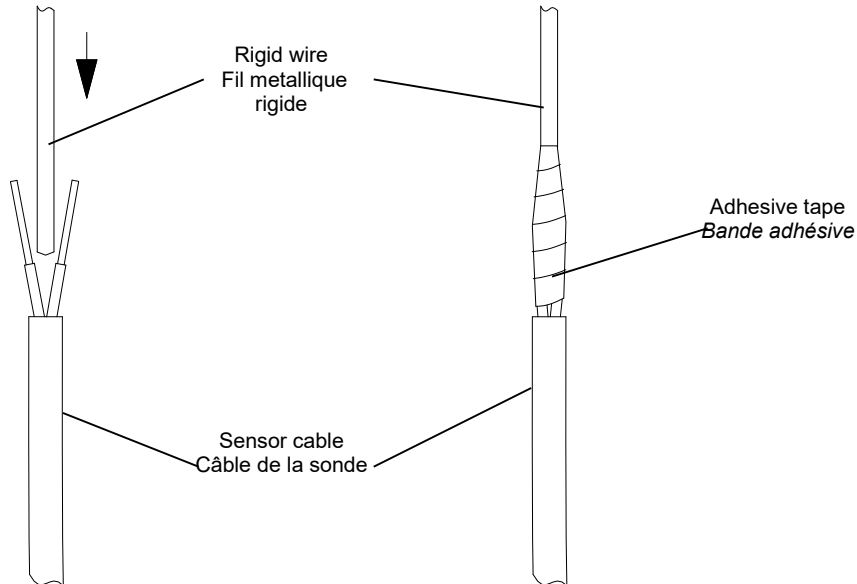
### 2. Placement of Ex-It-JB/NA



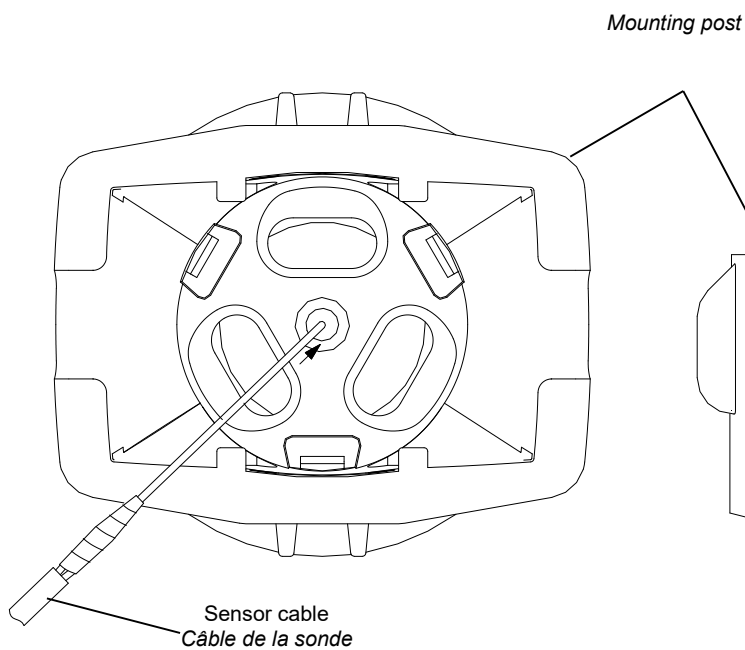


### 3. Option "sensor cable"

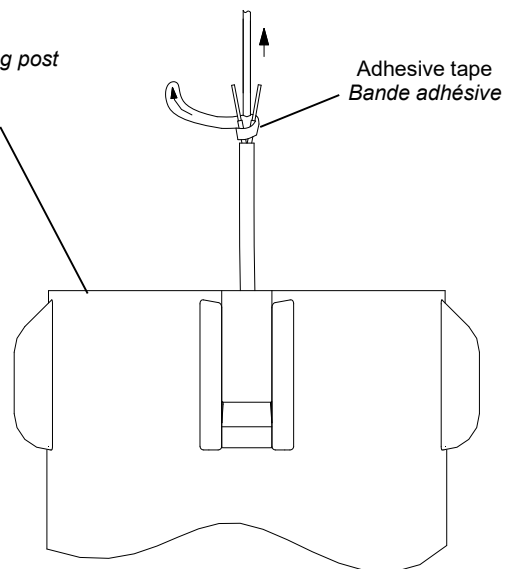
#### 3a. Detail « A »



#### 3b.

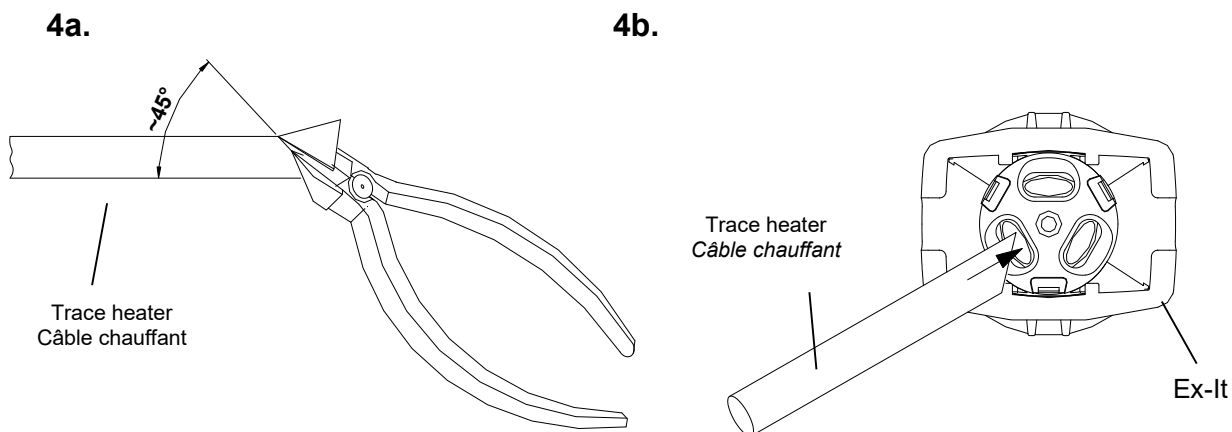


#### 3c.



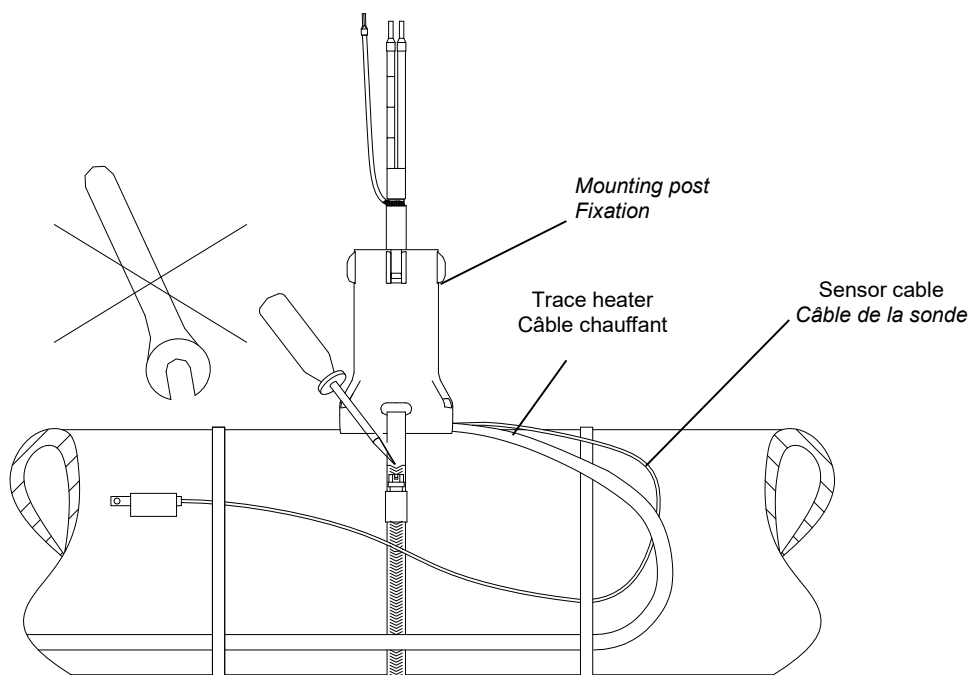


**4. Option “Trace heater”**



*Trace heater termination: see separate instructions (QAA 126) in termination kit*  
*Seal cable ends after installation!*

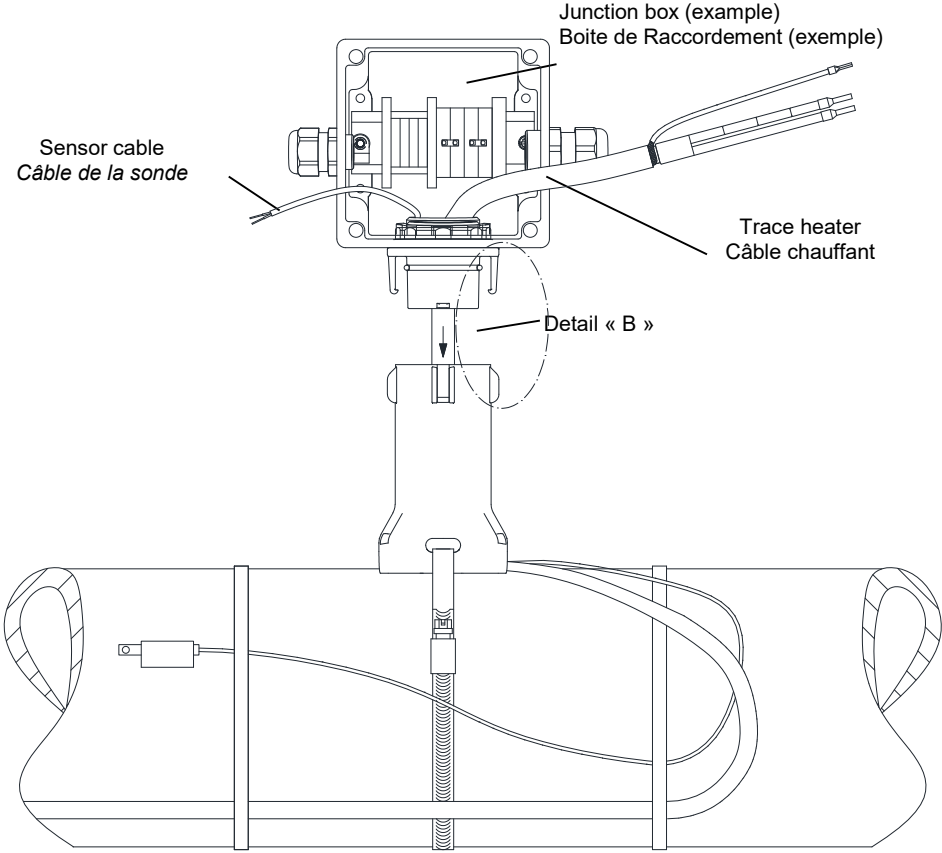
**5.**



**Do not feed tightening strap above trace heater or sensor cable!**  
**Ne mener pas tendeur à vis au dessus de la câble chauffant ou câble de la sonde!**



**6.**



**7. Detail « B »**

