## 1- OPERATING OF CONDITIONS

1.1 The VIGIBELT® TOUCH has the function of signalling abnormal offset of bucket elevator belts or conveyor belts to a safety supervision (MJET+ monitoring, PLC, etc.) in order to trigger an alarm or a machine stop.

1.2 The VIGIBELT® TOUCH must be installed in pairs (kit) on each side of the belt to detect offset faults in both directions.

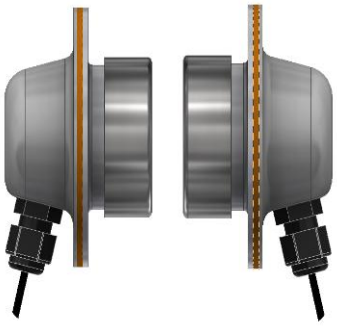
1.3 In service situation, the VIGIBELT® TOUCH is activated when the belt in faulty offset exerts a pressure on the piston of 13 Kg±2.

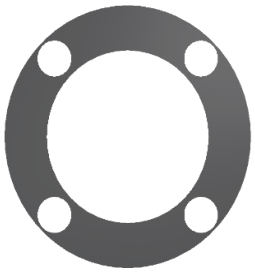
1.4 For bucket elevators shorter than 20m, the pair of VIGIBELT® TOUCH must be installed at the foot of the elevator on the driven pulley on the rising up product sheath side. For bucket elevators longer than 20m, a second pair of VIGIBELT® TOUCH must be added at the head of the elevator, always on the rising up product sheath side (see figure A).

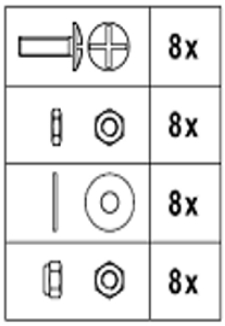
## 2- DESCRIPTION

The VIGIBELT® TOUCH kit is composed of two detectors, four elastomeric wedges of 3mm (NBR), and the fixing screws (M6), Composition:

**2x VIGIBELT® TOUCH** **4x elastomeric wedges (ep.3)** **8x Fastening Bolts(M6)**








## 3- PRECAUTIONS AND SPECIFIC CONDITIONS OF USE

The VIGIBELT® TOUCH kit must be installed, connected and put into service only by competent personnel. The personnel need to have electrical accreditation, a knowledge of the regulation and the disposition concerning the installation of those device, especially for the VIGIBELT® TOUCH ATEX Ex II 3 D version.

3.1 Carry out beforehand an electrical connection study to install the VIGIBELT® TOUCH (standardized electrical diagram, power supply and electrical protection, plc control, ATEX zones to be respected).

3.2 Check that the temperature range of use of the VIGIBELT® TOUCH (variable according to version) corresponding at application.

3.3 Check during the first commissioning of the bucket elevator in the handling phase, that there is no sealing defect (dust leak) between the sheath of the elevator and the VIGIBELT® TOUCH.

3.4 Shut down the bucket elevator or belt conveyor to a standstill (off) before any installation or intervention on the VIGIBELT® TOUCH (intervention information to be indicated on the machine).

3.5Never deactivate the monitoring of the VIGIBELT® TOUCH when starting up a bucket elevator or a conveyor belt. d'un convoyeur à bande.

**Warning:** If the buckets are wider than the belt, they will tear off the VIGIBELT® TOUCH piston before the system can detect belt misalignment.



The VIGIBELT TOUCH® is a non dismountable device and no repairs are allowed. In case of malfunction and/or damage of this equipment, please contact us for a replacement (see paragraph 5).

The installer must connect the end of the VIGIBELT TOUCH® cable (Ex II 3 D) either outside the ATEX zone or in an enclosure protected by a recognised method of protection adapted to the ATEX zone present.

The VIGIBELT TOUCH® can only be used in certain positions, please observe the written instructions in paragraphs 4.1 and 4.3 of this manual.

- The elastomer bellows of the VIGIBELT TOUCH® must not be exposed to UV light. The installer and the user must ensure that the bellows are permanently protected from UV light.
- Potential danger of electrostatic charges: do not rub the labels on the metal cover of the VIGIBELT TOUCH® with a dry cloth. The cloth must be moistened to clean these insulating surfaces.
- Grounding of the VIGIBELT TOUCH® : please follow the written instructions in paragraphs 4.2 and 4.4 of this manual .
- Maximum belt speed 4m/s and kept as low as possible (CEN/TR 16829).
- The lifetime of the VIGIBELT® TOUCH (ATEX) is limited to 10 years or 10,000 hours, whichever comes on the first expiry of the both limits.

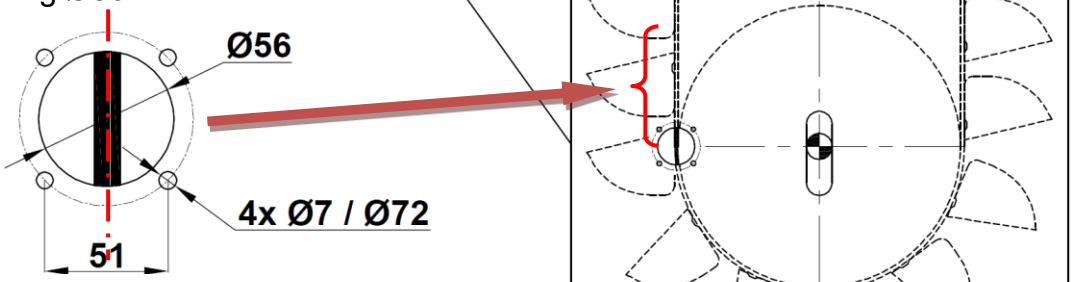
## 4- INSTALLATION

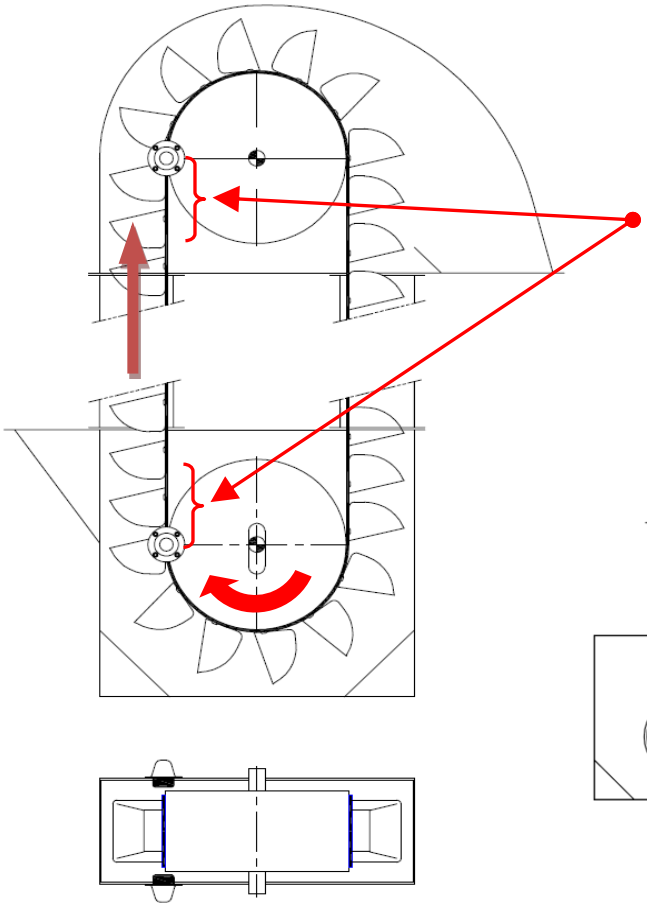
4.1 Make the installation openings for the VIGIBELT® TOUCH (Ø56mm opening + 4 holes Ø7 on Ø72) on each side on the rising shaft for bucket elevator or on the upper belt for transports (see figure A).

**Warning:** the Ø56mm openings must be made in the axis of the belt to guarantee the activation of the VIGIBELT® TOUCH. The installation surface must be perfectly flat and clean.

**Figure A**

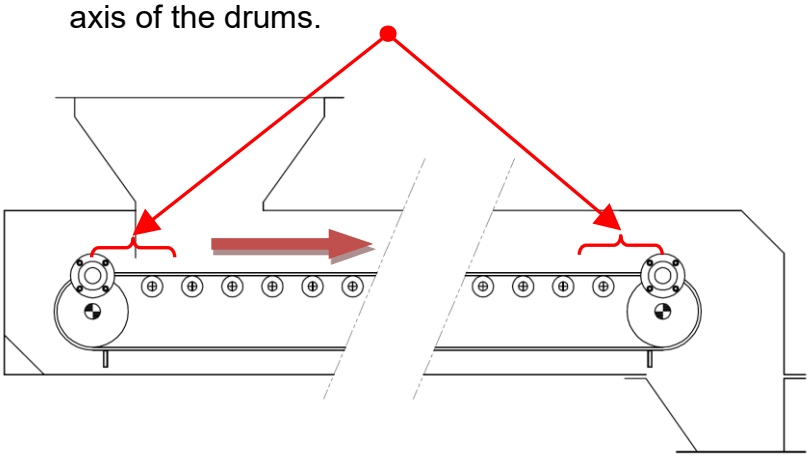
- Make the opening Ø56 in the axis of the belt



On a bucket elevator, position the VIGIBELT® TOUCH sensors on the rising leg side close to the horizontal axis of the sheaves

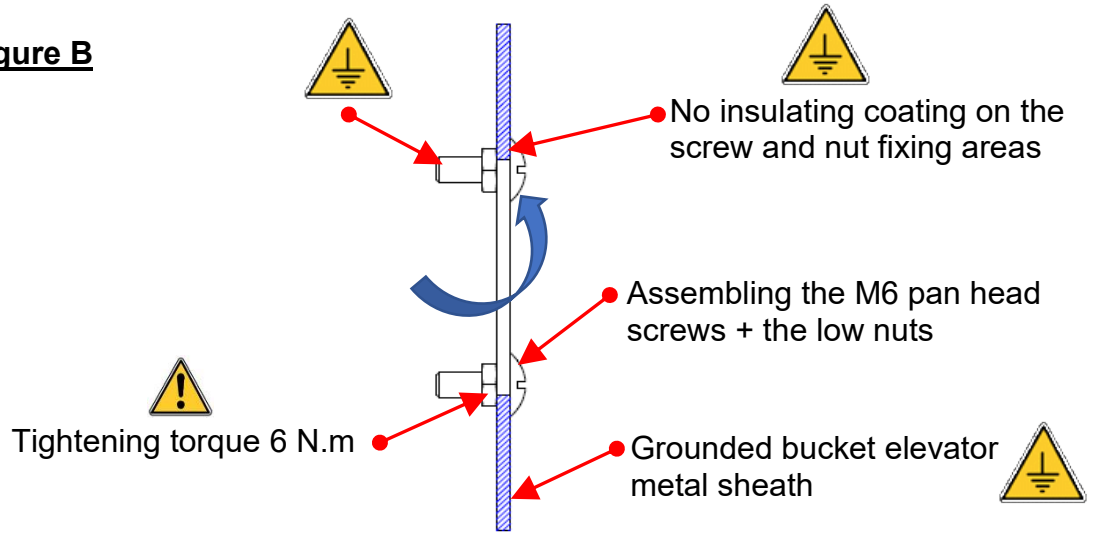
On a conveyor belt, position the VIGIBELT® TOUCH sensors on the taut side near the vertical axis of the drums.



4.2 Before fixing the VIGIBELT TOUCH®, the M6 pan head screws must be assembled with the nuts on the sheath (tightening torque 6 N.m) by passing the M6 pan head screws through the Ø56 hole (see figure B).

To ensure that the metal cover of the VIGIBELT TOUCH is earthed with the metal sheath of the bucket lift (earthed), you must remove any insulating coating such as paint, varnish, rust, etc. from the areas in contact with the M6 fixing screws and nuts.

**Figure B**




4.3 Adjust the detection range of the VIGIBELT TOUCH® according to the three solutions defined below (see figure C). The detection range determines the activation sensitivity of the VIGIBELT® TOUCH, it corresponds to the distance between the inner wall of the sheath and the contact face of the piston.

In the example shown below (see figure C), the detection settings are conditioned by a sheath thickness of 3mm, if the thickness of your sheath is different from this example, you must recalculate the detection distance using the thickness of your sheath (e.g. for a sheath with a thickness of 4mm, the setting n°1=19mm; N°2= 16mm and N°3= 13mm).

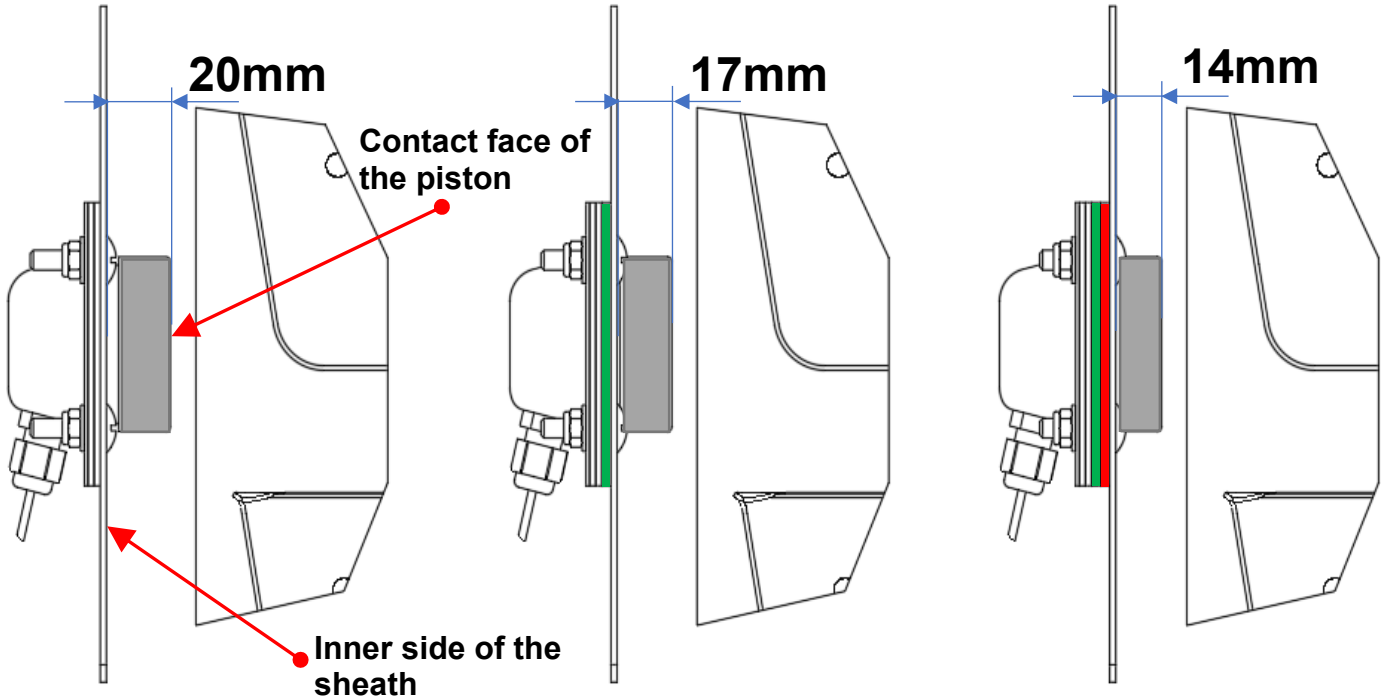
No. 1 - VIGIBELT® TOUCH without wedge (example with 3mm thick sheath), internal detection distance **20mm**
No. 2 - VIGIBELT® TOUCH with an wedge (example with 3mm thick sheath), internal detection distance **17mm**
No. 3 - VIGIBELT® TOUCH with two wedges (example with 3mm thick sheath), internal detection distance **14mm**

**Figure C**

**Setting N°1**
Distance of 20mm,
Without wedge

**Setting N°2**
Distance of 17mm,
With an wedge

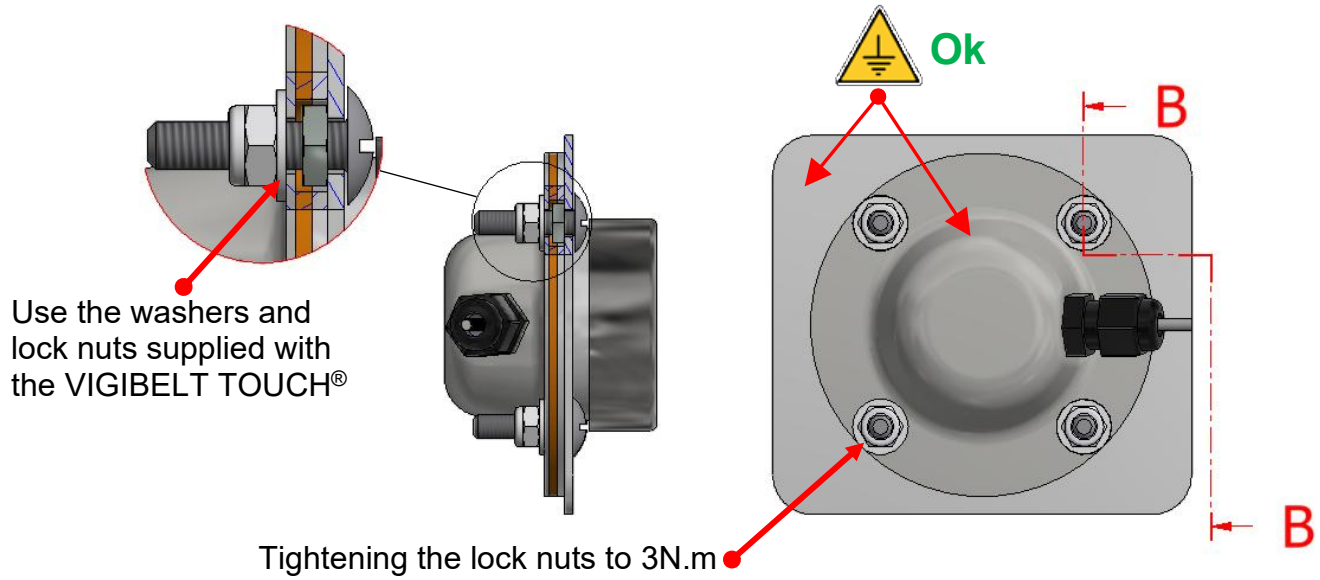
**Setting N°3**
Distance of 14mm,
With two wedges



4.4 Position the VIGIBELT® TOUCH on the Ø56 openings, add the washers and screw on the M6 lock nuts with a tightening torque of 3 N.m (see figure D).

**Figure D**

After tightening the four M6 lock nuts with washers to 3 N.m, check that the equipotential bonding is established between the metal cover of the VIGIBELT TOUCH and a point on the metal sheath without an insulating coating.



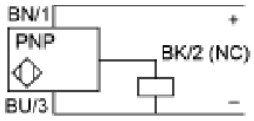

4.5 Connect the VIGIBELT TOUCH® electrically according to scheme 1 (ATEX) or 2 (non-ATEX):

NC detector = positive safety, permanent control of the proper functioning of the sensor

Signal loss indicates that there is a
- ⇨ Belt offset problem
- ⇨ Electrical wire cut off

**Scheme 1_connection 3 wires / NC - PNP**

**Wire Colors**
**BN = Brown**
**BU = Blue**
**BK = Black**




PVC cable 2m, 3x0.11mm²

**Version ATEX (inductive sensor) :**
- Cable connection : 3 wires
- Cable length : 2m
- Voltage Ue : 12…24V DC
- Voltage limits, including ripple : 10…36V DC
- Switching power Ie : 0…100 mA
- Ambient temperature Ta : -20…60°C
- IP grade of protection : IP6X

**ATEX Caracteristic :**

**Product markingt :**

**Ex II 3 D Ex tc IIIC T80°C Dc - IP6X_Ta: -20…+60°C**

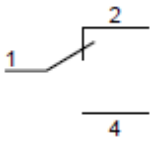
**Caution: The electrical connection must be made outside the ATEX zone or in an enclosure certified by a recognised protection method and adapted to the classification of the ATEX zone present.**

**Caution: Add a protective sheath to the power cable of the VIGIBELT TOUCH®**

---

**Scheme 2_connection 3 wires**

**Wire colors**
**1 = Black**
**2 = Grey**
**4 = Blue**




PVC cable 2m, 3x0.25mm²

**No ATEX version (mechanical sensor) :**
- Cable connection : 3 wires
- Cable length : 2m
- Voltage : 12…250V AC/DC
- NC : Black wire (1) / Grey wire (2)
- NO : Black wire (1) / Grey Wire (4)
- Operating temperature : -20…80°C
- Grade of protection of the detector : IP67

4.6 After the mechanical and electrical installation, you must check each VIGIBELT® TOUCH to ensure that they are all operational. To do this, you must manually activate each VIGIBELT® TOUCH by pressing on their contact face (piston). This simulation allows you to validate that the fault information is communicated to the safety supervision (M-JET monitoring, PLC, etc.).

## 5- CONTROL & PERIODIC MAINTENANCE

5.1 To ensure the functional integrity of VIGIBELT® TOUCH, you must schedule periodic inspections. The frequency of inspections must be sufficient to avoid dangerous situations (situations that affect the intrinsic functioning of the VIGIBELT® TOUCH).

5.2 During these inspections, check that the VIGIBELT® TOUCH are not affected by the following defects: dust layer >2mm, dust leak between the sheath of the elevator and the VIGIBELT® TOUCH, non-operational power supply voltage, Degraded electrical wiring and/or sheathing, shocks on the envelope of the VIGIBELT® TOUCH, triggering of the detector with a charge of 13 kg± 2, etc...

5.3 In the case of one or more defects found, you must proceed with the restoration in order to correct the defect(s) before you can use the bucket lift or belt conveyor again.

5.4 Only personnel trained and authorized in maintenance procedures for these equipment are able to carry out inspections for VIGIBELT® TOUCH.

## 6 - DISPOSAL

When dismantling the VIGIBELT® TOUCH, the user must ensure the proper disposal of this device and hand over to the specialized harvesting centers the components according to their nature (stainless steel, electrical equipment, seal, etc.).

In the event that the VIGIBELT® TOUCH kit is used, controlled, under conditions contrary to the precautions described in this instruction manual, STIF declines all responsibility for damage caused to man, animal, environment, material property.

**Z.A. de la lande - 49170 Saint-Georges-sur-Loire - France**
**Head office, purchasing and factory:** tel.: +33 2 41 72 16 80 - Fax +33 2 41 72 16 85
**France Export Commercial Service:** tel.: +33 2 41 72 16 82 - Fax +33 2 41 39 32 12
email: sales@stifnet.com - Website: www.stifnet.com
SAS with a capital of € 800,000 - R.C.S. Angers B 328 876 503 - 84B12 APE 2511Z - VAT number FR 35 328 876 503