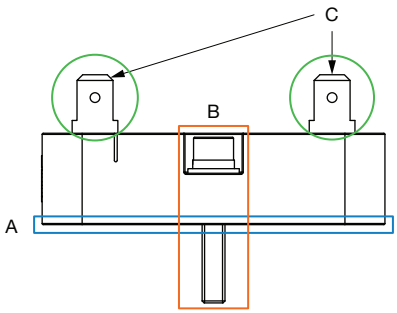
Recommended Installation Instructions for the High Energy Hybrid Resistor (HRHE / HRHA)

1. RESISTOR ILLUSTRATION



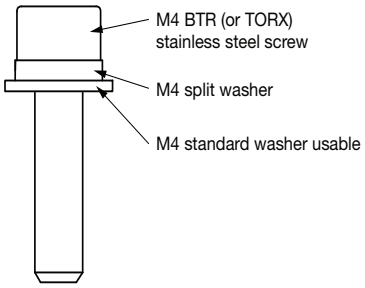
The resistors are supplied ready for electric connection.

Warning: it is important to respect the order of stages 2, 3, 4, and 5.

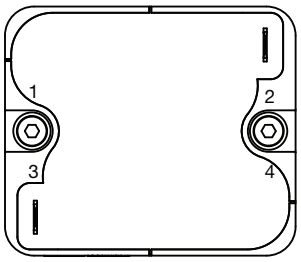
2. MECHANICAL INSTALLATION (A)

- The resistor must be mounted on a surface with identical flatness to the resistor (0.05) for the surface of the ceramic to make contact (A)
- The resistor is intended to be used horizontally
- Material in contact with the resistor shall be capable of withstanding a maximum temperature of 250 °C when used continuously at maximum power (90 W on a stainless steel surface and 54 W on an insulated mica type material)

3. MECHANICAL TIGHTENING (B)



Screw Stack



Tightening order

- The resistor shall be fixed with 2 M4 BTR or TORX screws, with the head applying pressure on an M4 Grover washer over an M4 flat washer on ceramic
- Tightening shall be performed in 4 steps:
  1. Hand tightening until split washer contact on the first screw
  2. Hand tightening until split washer contact on the second screw
  3. 1.5 Nm ± 0.2 Nm tightening on the first screw
  4. 1.5 Nm ± 0.2 Nm tightening on the second screw
- On proper tightening, the split washer shall be squished on the flat washer
- Any excessive uneven tightening shall be banned, as it can result in cracks on the ceramic core
- **Split washer shall never be used directly on the ceramic as it can result in cracks on the ceramic core**
- **Used split washer shall never be used again after a first assembly**

4. ELECTRICAL CONNECTION (C)

- Use standard faston 250 series (6.35 mm or 0.250") to plug the resistor on the electrical circuit
- Do not apply torsion stress on the faston terminals in order to avoid cracks on the cement
- Male fastons on the resistor are in stainless steel alloy AISI 304 without platting; proper selection of female fastons shall be done to ensure the proper electrical connection

5. COMMISSIONING

- Operating the resistor can be effective only after proper completion of each step from 2 to 4 without restriction

Note

- Only compliance with these recommendations will ensure normal operation of the equipment and avoid any malfunction

6. PRODUCT END OF LIFE

- In order to preserve, protect, and improve the quality of the environment, as well as to protect the health of human beings and to use natural resources prudently, the user is asked to treat the product at the end of its life in accordance with regulations in force in the country of use
- For packaging materials (cardboard, plastics, pallets), they can be reused or recycled in a specialized sector in the treatment of packaging materials
- Electrical cables (if provided) can be separated from the resistor and recycled in a specialized sector in their treatment
- The rest of the product must be considered as ordinary industrial waste (OIW)