

Totem T10/T20 m-CHP

Critical Installation Requirements

The following installation requirements must be adhered to and completed before the commissioning visit.

Electrical Installation

1. A 4-pole isolator must be supplied and installed on the LV distribution board side of the G59 control panel and the installer is responsible up to this point. All testing must be completed and reports available before commissioning.
2. All pumps and circuits must have local isolators. All connections should be complete except for final connections within the G59/G83 control panel. The ends should be labelled and dead tests should be completed. Reports showing this are required before commissioning.
3. A 6 pole isolator is supplied to be installed between the interface protection control panel and the CHP unit. Four poles are to be used for the three phases and neutral. One pole is for the live supply from the BMS for the three internal relay status outputs to be wired in parallel (fault output, service due, engine running), and the final pole is to be used for the live feed to the switching relay for the shunt pump between the CHP and buffer vessel. An auxiliary is included to be used when necessary.
4. The CHP cable (minimum 10mm² 4 core and earth) should be glanded off and stripped back (but not connected) in the following places: Interface Protection Control Box, 6 pole isolator (both sides), and CHP control panel. The cable cores must be identified in order to be connected by the commissioning engineer.
5. All circuit breaker protection for the CHP unit must be D Type and exceed the run amperage of the unit by more than 50% (T20: 50A protection; T10: 30A protection)
6. The building voltage must be in the range of 230V \pm 10%.
7. Any voltage optimization system must allow for electricity export.
8. The CHP has its own power factor correction and should not be corrected by any on-site power factor correction system.

Mechanical Installation

1. Each unit must have an individual exhaust pipe system with a rating of at least T120 and H1. There must be a flexible connector for the exhaust. The silencer must be placed as close as possible to the machine.
2. CHP units require additional ventilation beyond the requirements of BS6644 and IGEM/UP/10. The Totem T10 and T20 each require 600m³/hr of ventilation. Passive ventilation can typically be considered to provide this amount if there is 1000cm² high and 1000cm² low. Any additional gas appliances should be calculated separately and added to the CHP requirement.
3. Consideration should be given to the noise from the exhaust. In locations where it could cause a nuisance the exhaust should be taken to high level.
4. All pipe connections to the machine should have flexible connections which can be supplied by Advenco Ltd.
5. Clipping and bracketing of the exhaust and pipework should be in such a way that it will hold the pipe steady on the building side of the flexible connection. Clipping should be done to structural and rigid parts of the building, not to other services which could carry vibration.
6. A method of measuring and setting the water flow rate through the machine must be installed in the pipework.
7. Suitable clearances should be allowed for servicing.

