



# Installation Checklist

## Capstone MicroTurbine

<b>NOTE</b>	Perform the inspections in this document before completing the MicroTurbine Commissioning Checklist (460006). This list can also be used as an installation design checklist before breaking ground. Also, refer to the Commissioning Checklist Procedures Work Instructions (440052).
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### Procedure

Perform the following inspections and check the box to the left of each if you can answer 'Yes' to the question. There may be other ways to satisfy the requirements of the MicroTurbine without answering yes to the questions, but those answers ought to be explained. If the installation does not satisfy any of the following inspections, correct the problem(s) before completing the MicroTurbine Commissioning Checklist (460006).

Each asterisk (\*) that is highlighted in yellow is a note flag. Place the cursor on any flag and wait for a short time until the note opens. Each note presents helpful information for performing the related inspection.

Yes	Inspection
<input type="checkbox"/>	<b>Is the installation indoors?</b>
<input type="checkbox"/>	Is the room ventilated with a powered fan? *[Note1]
<input type="checkbox"/>	Is it sized for 5 kW per C30, 10 kW per C60? 1500 cfm per C60 on a 100 °F day? *[Note2]
<input type="checkbox"/>	Is the room ventilation inlet near the MicroTurbine front? *[Note3]
<input type="checkbox"/>	Is the room ventilation outlet near the MicroTurbine rear? *[Note4]
<input type="checkbox"/>	Are the compressors or other heat sources near the rear of the MicroTurbine?
<input type="checkbox"/>	Is the exhaust ducting adequately sized for the length? *[Note5]
<input type="checkbox"/>	Is the exhaust ducting removable from the MicroTurbine for engine removal/service?
<input type="checkbox"/>	Is the engine air and electronics air at the same temperature? *[Note6]
<input type="checkbox"/>	Is the electronics inlet free of restrictions such as louvers, ducting, etc?
	<b>General Installation</b>
<input type="checkbox"/>	Is there adequate service area and egress to the service areas? 30" min. all sides
<input type="checkbox"/>	Are the panels or engine free of obstruction for service removal? *[Note7]
<input type="checkbox"/>	Is there a telephone line available for the modem of each Master MicroTurbine?
<input type="checkbox"/>	<b>Is the installation a MultiPac?</b>
<input type="checkbox"/>	Are there conduits or conductors running between the MicroTurbines for MultiPac cable? *[Note8]
<input type="checkbox"/>	Are there conduits or conductors running from the master to the compressor, DMC, and heat exchanger for control wiring for faults, etc? *[Note9]
<input type="checkbox"/>	<b>Does the installation have heat recovery?</b>
<input type="checkbox"/>	If the exhaust is ducted together, are there backflow dampers and interlocks? *[Note10]
<input type="checkbox"/>	If there is more than one heat exchanger, is the common water pipe bigger than both individuals to allow adequate water flow and prevent overheating?
<input type="checkbox"/>	If the water loop is long, is the pipe and pump sized appropriately?
<input type="checkbox"/>	Has air been purged from the system and is there an air separator plumbed upstream of the heat exchanger?

<input type="checkbox"/>	<b>Is the installation a biogas site?</b>
<input type="checkbox"/>	Is the fuel being delivered to the MicroTurbine inlet at a pressure required in the table in the MicroTurbine Fuel Requirements Technical Reference (410002)? *[Note11]
<input type="checkbox"/>	Is there a liquid and solid/gas separator upstream of the compressor? *[Note12]
<input type="checkbox"/>	Is the inlet pressure and temperature appropriate for the compressor specification?
<input type="checkbox"/>	Is the output pressure of the compressor sufficient accounting for pressure drops in the pipes and regulators, and still meet the minimum inlet pressure in the MicroTurbine Fuel Requirements Technical Reference (410002)?
<input type="checkbox"/>	Is there a refrigerated dryer? *[Note13]
<input type="checkbox"/>	Are all drains automatic or manual? Is there evidence of draining? *[Note14]
<input type="checkbox"/>	Is there siloxane filtration, if required? *[Note15]
<input type="checkbox"/>	Is the fuel pipe sloped appropriately and not buried anywhere along its length that can cause condensation?
<input type="checkbox"/>	Are there drain provisions for any low spots in the fuel lines?
<input type="checkbox"/>	Is the fuel option kit filter clean and dry? *[Note16]
	<b>Electrical connections</b> *[Note17]
<input type="checkbox"/>	Is there a transformer and what type/rating? 45 kVA per C30, 90 kVA per C60
<input type="checkbox"/>	Is the neutral connected to ground at a maximum of one location?
<input type="checkbox"/>	Is the unit properly grounded?
<input type="checkbox"/>	Is there only one ground or all the grounds tied together?
	<b>Fuel system</b>
<input type="checkbox"/>	Is there a fuel option kit or equivalent?
<input type="checkbox"/>	Is there a regulator at each MicroTurbine and is it close to the fuel inlet?
<input type="checkbox"/>	Is there sufficient delta P across the regulators for them to operate properly? 10-15 psi? *[Note18]
<input type="checkbox"/>	Is it near the inlet to the MicroTurbine? *[Note19]
<input type="checkbox"/>	Is the fuel inlet to the Compressor adequately sized?
<input type="checkbox"/>	Is the fuel pipe from the Compressor to the MicroTurbine adequately sized and free of unnecessary length and bends?
<input type="checkbox"/>	Does the fuel pressure meet the fuel spec? 55-60 psig for C30 HP, 75-80 for C60 HP?

## Capstone Technical Support

If questions or problems arise regarding this document, please contact Capstone Technical Support for assistance and information.

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