



Buck - Boost Transformer - Sizing

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Determine the information below in order to select the correct buck- boost transformer for your application. Reference tables, sizing formulae, kVA, amps, and motor horsepower are provided on the

following page. Any questions on sizing may be handled by your Dongan Representative or by contacting Dongan Customer Service at (800) 428-2626.

Required Data	Explanation:	Examples	
		Single Phase	Three Phase
Phase Requirements	Determine load phase requirements <ul style="list-style-type: none"> • Single phase • Three phase 	1 Phase	3 Phase
Line Voltage	Determine the supply or line voltage at the installation site where the transformer will be connected. This is best accomplished by measuring the voltage with a suitable voltmeter.	106 volts	208 volts
Load Voltage	Determine the voltage you require to operate the load to be connected to the transformer. If you are unsure of the correct voltage, check the nameplate of the devices intended for operation.	120 volts	240 volts
Frequency	Be certain the supply line frequency and the load frequency required are the same. Remember: a transformer is not capable of changing frequency.	60 Hz	60 Hz
Load Amps or kVA	Determine either load kVA or load amps by adding all loads to be supplied by the transformer. This is best accomplished by again referring to the equipment nameplates.	4 kVA	15 kVA
Select Correct Catalog No. from Charts	<p>Now turn to the appropriate single or three phase buck - boost chart. Select the column closest to the line/load voltage combination for your application. Move down the column until values of load kVA or load amps meet or exceed your load amps or load kVA required. Never size smaller than your requirements demand. Then read across the row to select the correct catalog number for your application.</p> <p>Remember, three phase applications require banks of two or three transformers, while single phase applications require only one unit. The charts note the correct combination of units required at the bottom of the columns. Be sure to specify and order the correct number of units for your three phase applications.</p>	Cat No. 85-Y030 or 35-Y030 1 Unit Required	Cat No. 85-Y040 or 80-Y040 2 Units Required
Connect Transformer per Supplied Diagrams	The transformer may now be connected per the diagram indicated at the bottom of the column from which you selected your line/load combination. A connection diagram is packaged with each Buck-Boost transformer for your convenience.	Diagram SP-11	Diagram TP-5