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Dry Type Transformers
Buck-Boost
Encapsulated
For Bucking and Boosting Voltage

Product Description

Buck boost transformers are small, single-phase, dry type distribution transformers designed and shipped as insulating/isolating transformers. They have a dual voltage primary and a dual voltage secondary. These transformers can be connected for a wide range of voltage combinations. The most common use is to buck (lower) or boost (raise) the supply voltage a small amount, usually 5 to 27%. Buck boost transformers comply with NEC Article 210-9, Exception 1, when field connected as an autotransformer.

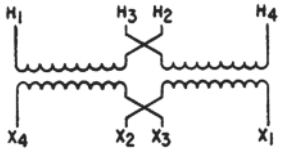
GE bucking and boosting transformers provide an economical and convenient means for bucking or boosting voltage, usually no more than ±20% on single- and three-phase circuits. They are compact, relatively light in weight, and can be easily installed for indoor or outdoor service.

Buck-boost transformers are employed primarily for boosting single-and three-phase circuits by connecting them as autotransformers. When connected as an autotransformer, only the low-voltage, high-current capacity secondary windings are required to carry the load. Because this load is only transformed over a small change in voltage, the buck-boost transformer can handle loads many times its nameplate kVA rating.

The transformers with series-multiple 12/24, 24/48, or 16/32 Volt secondary windings are suitable for a wide variety of applications. Two or more units can be used in various combinations to obtain many other special voltages. (For fluctuating voltage conditions, refer to Power Conditioning Equipment Products section starting on page 10-36).



Indoor/Outdoor Type QB Transformer; Single-Phase



Wiring Diagram for Low Voltage Loads

Advantages

—Efficient insulating materials permit compact size and light weight
—Dual voltage primary and dual voltage secondary for maximum versatility
—Large, front-accessible wiring compartment permits fast, easy wiring
—Convenient conduit knockouts located on side, bottom and back of wiring compartment
—GE Buck-Boost Transformer Selector makes selection fast and easy
—Many GE buck-boost transformers fit competitor mounting footprints
—Indoor or outdoor service

Key Features

—Convenient and least expensive method of matching line voltage with equipment voltage
—More efficient than equivalent isolation transformers
—Ability to handle loads up to 20 times nameplate rating when connected as an autotransformer
—Ideal for changing line voltages by small amounts
—Primary voltages include 120V, 240V and 480V
—Secondary voltages include 12V, 16V, 24V, 32V, 48V
—UL and cUL Listed
—Qualified to the seismic requirements of IEEE-693-1997 and IBC-2003
—ABS (American Bureau of Shipping) Type Approved

Applications

—International voltage adaptation
—Commercial and industrial air conditioning
—Heating systems
—Induction motors
—Voltage line drop correction
—Landscape lighting
—Low-voltage lighting
—Marine and Offshore - ABS Classed Vessels

Efficient operation of electrical equipment requires that line voltage be at or near the nameplate rating of the equipment. In order to match available line voltage (whether it be too high or low) with equipment voltage, buck-boost transformers provide the most convenient and least expensive method.

Do not use buck-boost transformers to solve a fluctuating voltage problem. They should be used to compensate for high- or low-voltage conditions only when the available line voltage is reasonably constant.

Single-Phase Indoor/Outdoor Type QB 60 Hz UL Listed C-UL Listed

Input Voltage	Output Voltage	kVA	Height (in)	Width (in)	Depth (in)	Approx. Net Weight (Lbs.)	Frame Size	Product Number
120/240 Volts	12/24 Volts	0.05	6.38	5.12	3.25	6	6100	9T51B0102
120/240 Volts	12/24 Volts	0.075	6.38	5.12	3.25	6	6200	9T51B0103
120/240 Volts	12/24 Volts	0.1	6.38	5.12	3.25	6	6200	9T51B0104
120/240 Volts	12/24 Volts	0.15	7.38	6.12	4.25	10	8175	9T51B0105
120/240 Volts	12/24 Volts	0.25	7.38	6.12	4.25	10	8175	9T51B0107
120/240 Volts	12/24 Volts	0.5	8.38	6.88	4.88	20	10225	9T51B0108
120/240 Volts	12/24 Volts	0.75	9.62	7.88	5.50	25	12200	9T51B0109
120/240 Volts	12/24 Volts	1	9.62	7.88	5.50	25	12225	9T51B0110
120/240 Volts	12/24 Volts	1.5	11.12	9.38	6.72	40	14200	9T51B0111
120/240 Volts	12/24 Volts	2	11.12	9.38	6.72	50	14300	9T51B0112
120/240 Volts	12/24 Volts	3		9.38	6.72	55	14350	9T51B0113
120/240 Volts	16/32 Volts	0.05	6.38	5.12	3.25	6	6100	9T51B0122
120/240 Volts	16/32 Volts	0.075	6.38	5.12	3.25	6	6200	9T51B0123
120/240 Volts	16/32 Volts	0.1	6.38	5.12	3.25	6	6200	9T51B0124
120/240 Volts	16/32 Volts	0.15	7.38	6.12	4.25	10	8175	9T51B0125
120/240 Volts	16/32 Volts	0.25	7.38	6.12	4.25	10	8175	9T51B0127
120/240 Volts	16/32 Volts	0.5	8.38	6.88	4.88	20	10225	9T51B0128
120/240 Volts	16/32 Volts	0.75	9.62	7.88	5.50	25	12200	9T51B0129
120/240 Volts	16/32 Volts	1	9.62	7.88	5.50	30	12300	9T51B0130
120/240 Volts	16/32 Volts	1.5	11.12	9.38	6.72	40	14200	9T51B0131
120/240 Volts	16/32 Volts	2	11.12	9.38	6.72	50	14300	9T51B0132
120/240 Volts	16/32 Volts	3		9.38	6.72	55	14350	9T51B0133
240/480 Volts	24/48 Volts	0.05	6.38	5.12	3.25	6	6100	9T51B0202
240/480 Volts	24/48 Volts	0.075	6.38	5.12	3.25	6	6200	9T51B0203
240/480 Volts	24/48 Volts	0.1	6.38	5.12	3.25	6	6200	9T51B0204
240/480 Volts	24/48 Volts	0.15	7.38	6.12	4.25	10	8175	9T51B0205
240/480 Volts	24/48 Volts	0.25	7.38	6.12	4.25	10	8175	9T51B0207
240/480 Volts	24/48 Volts	0.5	8.38	6.88	4.88	20	10225	9T51B0208
240/480 Volts	24/48 Volts	0.75	9.62	7.88	5.50	25	12200	9T51B0209
240/480 Volts	24/48 Volts	1	9.62	7.88	5.50	30	12275	9T51B0210
240/480 Volts	24/48 Volts	1.5	11.12	9.38	6.72	40	14200	9T51B0211
240/480 Volts	24/48 Volts	2	11.12	9.38	6.72	50	14300	9T51B0212
240/480 Volts	24/48 Volts	3	11.12	9.38	6.72	55	14350	9T51B0213

Single-Phase Indoor/Outdoor Type QMS 60 Hz UL Listed C-UL Listed

Input Voltage	Output Voltage	kVA	Height (in)	Width (in)	Depth (in)	Approx. Net Weight (Lbs.)	Frame Size	Product Number
120/240 Volts	12/24 Volts	5	14.5	10.62	11	103	16350	9T21B1037G02
120/240 Volts	16/32 Volts	5	14.5	10.62	11	115	16400	9T21B1040G02

Single-Phase Indoor/Outdoor Type QMS 50 Hz UL Listed C-UL Listed

Input Voltage	Output Voltage	kVA	Height (in)	Width (in)	Depth (in)	Approx. Net Weight (Lbs.)	Frame Size	Product Number
120/240 Volts	12/24 Volts	5	14.5	10.62	11	115	16400	9T21B1061G02
120/240 Volts	16/32 Volts	5	14.5	10.62	11	127	16450	9T21B1064G02

NOTE: In addition to bucking or boosting low circuit voltages to related value, these transformers can be used as two winding transformers to supply the rated nameplate low voltages, 12 to 48 Volts, two-wire or 12/24 to 24/48 Volts, three-wire. Also available in 50/60 Hz ratings.

Dry Type Transformers
Buck-Boost Selection Tables
Encapsulated
For Bucking and Boosting Voltage

5-Step Selection

The tables on these pages greatly facilitate buck-boost transformer selection. Simply follow these five easy steps:

1. Refer to the table having the same "output voltage" as the equipment you want to operate. For example, if you are installing a 230 Volt single-phase air conditioner, use the 230 Volt table.
2. Different available "line voltages" are listed across the top of each table. Select the line voltage column closest to your actual supply. If your available line voltage is exactly midway between two listed voltage levels, you may use either voltage column. For example, in the 230 Volt table, if you have 212 available, use either the 208 or the 216 column.
3. Read down the available line voltage column until you reach the rated load kVA of the equipment you want to operate or "the next higher kVA" rating. For example, in the 230 Volt table under the 208 available line voltage column, you want to operate an air conditioner rated 2 kVA. Since 2 kVA is not listed as such, you must read down to the next higher value or 2.4 kVA.
4. Once you have established this point, read across to the far left column for the exact GE buck-boost model number for your application. For example, the 230 Volt table under the 208 column for a 2 kVA air conditioner, read across from 2.4 (next higher kVA rating) and the model number is 9T51B0107.
5. Connect the buck-boost transformer you have selected per the connection diagram specified at the "bottom" of the available line voltage column you used. For example, if you used the 208 column, you would connect the buck-boost transformer per connection diagram A. That's all there is to it! The transformer you've selected will meet your exact requirements when connected in the specified manner.

The formula for calculating single-phase kVA is:

$$\frac{\text{Load Voltage} \times \text{Full Load Amps}}{1000}$$

The formula for calculating three-phase kVA is:

$$\frac{1.732 \times \text{Load Voltage} \times \text{Load Amps}}{1000}$$

Table 1

230 Volts Output, 60 Hertz, Single-Phase

	Available Line Voltage									
	192	203	208	216	219	242	245	353	261	276
Product Number	Load kVA[1]									
9T51B0102	—	—	0.480	—	0.960	1.0	—	0.530	—	—
9T51B0122	—	0.360	—	0.720	—	—	0.770	—	0.410	—
9T51B0202	0.240	—	—	—	—	—	—	—	—	0.288
9T51B0103	—	—	0.720	—	1.5	1.6	—	0.800	—	—
9T51B0123	—	0.540	—	1.1	—	—	1.2	—	0.620	—
9T51B0203	0.359	—	—	—	—	—	—	—	—	0.431
9T51B0104	—	—	0.960	—	2.0	2.1	—	1.1	—	—
9T51B0124	—	0.720	—	1.5	—	—	1.6	—	0.820	—
9T51B0204	0.479	—	—	—	—	—	—	—	—	0.575
9T51B0105	—	—	1.5	—	2.9	3.1	—	1.6	—	—
9T51B0125	—	1.1	—	2.2	—	—	2.3	—	1.3	—
9T51B0205	0.719	—	—	—	—	—	—	—	—	0.863
9T51B0107	—	—	2.4	—	4.8	5.1	—	2.7	—	—
9T51B0127	—	1.8	—	3.6	—	—	3.9	—	2.1	—
9T51B0207	1.2	—	—	—	—	—	—	—	—	1.4
9T51B0108	—	—	4.8	—	9.6	10.1	—	5.3	—	—
9T51B0128	—	3.6	—	7.2	—	—	7.7	—	4.1	—
9T51B0208	2.4	—	—	—	—	—	—	—	—	2.9
9T51B0109	—	—	7.2	—	14.4	15.2	—	7.9	—	—
9T51B0129	—	5.4	—	10.8	—	—	11.5	—	6.2	—
9T51B0209	3.6	—	—	—	—	—	—	—	—	4.3
9T51B0110	—	—	9.6	—	19.2	20.2	—	10.6	—	—
9T51B0130	—	7.2	—	14.4	—	—	15.4	—	8.2	—
9T51B0210	4.8	—	—	—	—	—	—	—	—	5.7
9T51B0111	—	—	14.4	—	28.8	30.3	—	15.9	—	—
9T51B0131	—	10.8	—	21.6	—	—	23.0	—	12.3	—
9T51B0211	7.2	—	—	—	—	—	—	—	—	8.6
9T51B0112	—	—	19.1	—	38.4	40.4	—	21.1	—	—
9T51B0132	—	14.4	—	28.8	—	—	30.7	—	16.4	—
9T51B0212	9.6	—	—	—	—	—	—	—	—	11.5
9T51B0113	—	—	28.7	—	57.5	60.5	—	31.7	—	—
9T51B0133	—	21.6	—	43.2	—	—	46.0	—	24.5	—
9T51B0213	14.4	—	—	—	—	—	—	—	—	17.3
9T21B1037G02	—	—	47.8	—	95.9	100.9	—	52.7	—	—
9T21B1040G02	—	36.0	—	72.0	—	—	77.0	—	40.8	—
Connection Diagram Page 10-60	C	A	A	B	B	B	B	A	A	C

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Table 2

240 Volts Output, 60 Hertz, Single-Phase

	Available Line Voltage									
	200	212	218	225	229	252	256	264	272	288
Product Number	Load kVA[1]									
9T51B0102	—	—	0.500	—	1.0	1.1	—	0.6	—	—
9T51B0122	—	0.380	—	0.750	—	—	0.800	—	0.430	—
9T51B0202	0.250	—	—	—	—	—	—	—	—	0.300
9T51B0103	—	—	0.750	—	1.5	1.6	—	0.825	—	—
9T51B0123	—	0.570	—	1.2	—	—	1.2	—	0.640	—
9T51B0203	0.375	—	—	—	—	—	—	—	—	0.391
9T51B0104	—	—	1.0	—	2.0	2.1	—	1.1	—	—
9T51B0124	—	0.750	—	1.5	—	—	1.6	—	0.850	—
9T51B0204	0.500	—	—	—	—	—	—	—	—	0.522
9T51B0105	—	—	1.5	—	3.0	3.2	—	1.7	—	—
9T51B0125	—	1.2	—	2.3	—	—	2.4	—	1.3	—
9T51B0205	0.750	—	—	—	—	—	—	—	—	0.782
9T51B0107	—	—	2.5	—	5.0	5.3	—	2.8	—	—
9T51B0127	—	1.9	—	3.8	—	—	4.0	—	2.2	—
9T51B0207	1.3	—	—	—	—	—	—	—	—	1.4
9T51B0108	—	—	5.0	—	10.0	10.5	—	5.5	—	—
9T51B0128	—	3.8	—	7.5	—	—	8.0	—	4.3	—
9T51B0208	2.5	—	—	—	—	—	—	—	—	2.6
9T51B0109	—	—	7.5	—	15.0	15.8	—	8.3	—	—
9T51B0129	—	5.7	—	11.3	—	—	12.0	—	6.4	—
9T51B0209	3.8	—	—	—	—	—	—	—	—	4.0
9T51B0110	—	—	10.0	—	20.0	21.0	—	11.0	—	—
9T51B0130	—	7.5	—	15.0	—	—	16.0	—	8.5	—
9T51B0210	5.0	—	—	—	—	—	—	—	—	5.2
9T51B0111	—	—	15.0	—	30.0	31.5	—	16.5	—	—
9T51B0131	—	11.3	—	22.5	—	—	24.0	—	12.8	—
9T51B0211	7.5	—	—	—	—	—	—	—	—	7.8
9T51B0112	—	—	20.0	—	40.0	42.6	—	22.0	—	—
9T51B0132	—	15.0	—	30.0	—	—	32.0	—	17.0	—
9T51B0212	10.0	—	—	—	—	—	—	—	—	10.4
9T51B0113	—	—	30.0	—	60.0	63.0	—	33.0	—	—
9T51B0133	—	22.5	—	45.0	—	—	48.0	—	25.5	—
9T51B0213	15.0	—	—	—	—	—	—	—	—	15.6
9T21B1037G02	—	—	50.0	—	100.0	105.0	—	55.0	—	—
9T21B1040G02	—	37.5	—	75.0	—	—	80.0	—	42.5	—
Connection Diagram Page 10-60	C	A	A	B	B	B	B	A	A	C

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Table 3

115 Volts Output, 60 Hertz, Single-Phase

	Available Line Voltage							
	91	96	101	105	127	130	138	146
Product Number	Load kVA[1]							
9T51B0102	—	0.240	—	0.480	0.539	—	0.290	—
9T51B0122	0.180	—	0.360	—	—	0.410	—	0.230
9T51B0103	—	0.360	—	0.720	0.800	—	0.440	—
9T51B0123	0.270	—	0.540	—	—	0.610	—	0.350
9T51B0104	—	0.480	—	0.960	1.1	—	0.580	—
9T51B0124	0.360	—	0.720	—	—	0.820	—	0.460
9T51B0105	—	0.720	—	1.5	1.6	—	0.870	—
9T51B0125	0.540	—	1.1	—	—	1.3	—	0.690
9T51B0107	—	1.2	—	2.4	2.7	—	1.5	—
9T51B0127	0.900	—	1.8	—	—	2.1	—	1.2
9T51B0108	—	2.4	—	4.8	5.3	—	2.9	—
9T51B0128	1.8	—	3.6	—	—	4.1	—	2.3
9T51B0109	—	3.6	—	7.2	8.0	—	4.4	—
9T51B0129	2.7	—	5.4	—	—	6.1	—	3.5
9T51B0110	—	4.8	—	9.6	10.6	—	5.8	—
9T51B0130	3.6	—	7.2	—	—	8.2	—	4.6
9T51B0111	—	7.2	—	14.4	15.9	—	8.6	—
9T51B0131	5.4	—	10.8	—	—	12.2	—	6.9
9T51B0112	—	9.6	—	19.2	21.2	—	11.5	—
9T51B0132	7.2	—	14.4	—	—	16.3	—	9.2
9T51B0113	—	14.4	—	28.8	31.8	—	17.3	—
9T51B0133	10.8	—	21.6	—	—	24.4	—	13.7
9T21B1061G02	—	24.0	—	48.0	53.0	—	28.8	—
9T21B1037G02	—	24.0	—	48.0	53.0	—	28.8	—
9T21B1064G02	18.0	—	36.0	—	—	41.0	—	22.9
9T21B1040G02	18.0	—	36.0	—	—	41.0	—	22.9
Connection Diagram Page 10-60	C	C	D	D	D	D	C	C

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Table 4

120 Volts Output, 60 Hertz, Single-Phase

	Available Line Voltage							
	95	100	106	109	132	136	144	152
Product Number	Load kVA[1]							
9T51B0102	—	0.250	—	0.500	0.550	—	0.300	—
9T51B0122	0.190	—	0.380	—	—	0.430	—	0.240
9T51B0103	—	0.380	—	0.750	0.830	—	0.450	—
9T51B0123	0.290	—	0.570	—	—	0.640	—	0.360
9T51B0104	—	0.500	—	1.0	1.1	—	0.600	—
9T51B0124	0.380	—	0.750	—	—	0.850	—	0.480
9T51B0105	—	0.750	—	1.5	1.7	—	0.900	—
9T51B0125	0.570	—	1.2	—	—	1.3	—	0.720
9T51B0107	—	1.3	—	2.5	2.8	—	1.5	—
9T51B0127	0.940	—	1.9	—	—	2.2	—	1.2
9T51B0108	—	2.5	—	5.0	5.5	—	3.0	—
9T51B0128	1.9	—	3.8	—	—	4.3	—	2.4
9T51B0109	—	3.8	—	7.5	8.3	—	4.5	—
9T51B0129	2.9	—	5.7	—	—	6.4	—	3.6
9T51B0110	—	5.0	—	10.0	11.0	—	6.0	—
9T51B0130	3.8	—	7.5	—	—	8.5	—	4.8
9T51B0111	—	7.5	—	15.0	16.5	—	9.0	—
9T51B0131	5.7	—	11.3	—	—	12.8	—	7.2
9T51B0112	—	10.0	—	20.0	22.0	—	12.0	—
9T51B0132	7.5	—	15.0	—	—	17.0	—	9.5
9T51B0113	—	15.0	—	30.0	33.0	—	18.0	—
9T51B0133	11.3	—	22.5	—	—	25.5	—	14.3
9T21B1061G02	—	25.0	—	50.0	55.0	—	30.0	—
9T21B1037G02	—	25.0	—	50.0	55.0	—	30.0	—
9T21B1064G02	18.8	—	38.0	—	—	43.0	—	23.8
9T21B1040G02	18.8	—	38.0	—	—	43.0	—	23.8
Connection Diagram Page 10-60	C	C	D	D	D	D	C	C

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Table 5

230 Volts, 3-Wire Output, 60 Hertz, Three-Phase[2]

Quantity Required Per Bank	Product Number	Available Line Voltage 181Y/105	192Y/111	203Y/117	208Y/120	277Y/160
		Load kVA[1]				
3	9T51B0102	—	0.830	—	1.7	—
3	9T51B0122	0.620	—	1.3	—	—
3	9T51B0202	—	—	—	—	0.480
3	9T51B0103	—	1.2	—	2.5	—
3	9T51B0123	0.930	—	1.9	—	—
3	9T51B0203	—	—	—	—	0.720
3	9T51B0104	—	1.7	—	3.4	—
3	9T51B0124	1.2	—	2.5	—	—
3	9T51B0204	—	—	—	—	0.960
3	9T51B0105	—	2.5	—	5.0	—
3	9T51B0125	1.9	—	3.7	—	—
3	9T51B0205	—	—	—	—	1.44
3	9T51B0107	—	4.2	—	8.3	—
3	9T51B0127	3.1	—	6.2	—	—
3	9T51B0207	—	—	—	—	2.4
3	9T51B0108	—	8.3	—	16.6	—
3	9T51B0128	6.2	—	12.5	—	—
3	9T51B0208	—	—	—	—	4.8
3	9T51B0109	—	12.5	—	25.0	—
3	9T51B0129	9.3	—	18.7	—	—
3	9T51B0209	—	—	—	—	7.2
3	9T51B0110	—	16.6	—	33.2	—
3	9T51B0130	12.5	—	25.0	—	—
3	9T51B0210	—	—	—	—	9.6
3	9T51B0111	—	25.0	—	50.0	—
3	9T51B0131	18.7	—	37.0	—	—
3	9T51B0211	—	—	—	—	14.4
3	9T51B0112	—	33.0	—	66.0	—
3	9T51B0132	25.0	—	50.0	—	—
3	9T51B0212	—	—	—	—	19.2
3	9T51B0113	—	50.0	—	100.0	—
3	9T51B0133	37.5	—	75.0	—	—
3	9T51B0213	—	—	—	—	28.8
3	9T21B1037G02	—	83.0	—	167.0	—
3	9T21B1040G02	62.0	—	125.0	—	—
	Connection Diagram Page 10-60	F	F	G	G	F

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.
[2]See Caution page 10-58, footnote 1.

Table 6

240 Volts, 3-Wire Output, 60 Hertz, Three-Phase[2]

Quantity Required Per Bank	Product Number	Available Line Voltage				
		189Y/109	200Y/115	208Y/120[3] 212Y/122	218Y/126	288Y/166
		Load kVA[1]				
3	9T51B0102	—	0.870	—	1.7	—
3	9T51B0122	0.650	—	1.3	—	—
3	9T51B0202	—	—	—	—	0.500
3	9T51B0103	—	1.3	—	2.6	—
3	9T51B0123	0.970	—	2.0	—	—
3	9T51B0203	—	—	—	—	0.750
3	9T51B0104	—	1.7	—	3.5	—
3	9T51B0124	1.3	—	2.6	—	—
3	9T51B0204	—	—	—	—	1.0
3	9T51B0105	—	2.6	—	5.2	—
3	9T51B0125	2.0	—	3.9	—	—
3	9T51B0205	—	—	—	—	1.5
3	9T51B0107	—	4.3	—	8.7	—
3	9T51B0127	3.2	—	6.5	—	—
3	9T51B0207	—	—	—	—	2.5
3	9T51B0108	—	8.7	—	17.3	—
3	9T51B0128	6.5	—	13.0	—	—
3	9T51B0208	—	—	—	—	5.0
3	9T51B0109	—	13.0	—	26.0	—
3	9T51B0129	9.7	—	19.5	—	—
3	9T51B0209	—	—	—	—	7.5
3	9T51B0110	—	17.3	—	34.6	—
3	9T51B0130	13.0	—	26.0	—	—
3	9T51B0210	—	—	—	—	10.0
3	9T51B0111	—	26.0	—	52.0	—
3	9T51B0131	19.5	—	39.0	—	—
3	9T51B0211	—	—	—	—	15.0
3	9T51B0112	—	35.0	—	70.0	—
3	9T51B0132	26.0	—	52.0	—	—
3	9T51B0212	—	—	—	—	20.0
3	9T51B0113	—	52.0	—	104.0	—
3	9T51B0133	39.0	—	78.0	—	—
3	9T51B0213	—	—	—	—	30.0
3	9T21B1037G02	—	87.0	—	173.0	—
3	9T21B1040G02	65.0	—	130.0	—	—
	Connection Diagram Page 10-60	F	F	G	G	F

[1]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.
[2]See Caution page 10-58, footnote 1.
[3]When 208Y/120 Volts is the available line voltage, the 212Y/122 column may be used to obtain 236 Volts which should be satisfactory for most applications.

Table 7

460 Volts, 3-Wire Output, 60 Hertz, Three-Phase [1]

Quantity Required Per Bank	Product Number	Available Line Voltage — 3- or 4-Wire				
		385	406	418	432	438
		Load kVA[2]				
3	9T51B0102	—	—	1.66	—	3.32
3	9T51B0122	—	1.25	—	2.49	—
3	9T51B0202	0.830	—	—	—	—
3	9T51B0103	—	—	2.48	—	4.96
3	9T51B0123	—	1.87	—	3.73	—
3	9T51B0203	1.2	—	—	—	—
3	9T51B0104	—	—	3.31	—	6.62
3	9T51B0124	—	2.49	—	4.97	—
3	9T51B0204	1.7	—	—	—	—
3	9T51B0105	—	—	4.97	—	9.94
3	9T51B0125	—	3.73	—	3.9	—
3	9T51B0205	2.5	—	—	—	—
3	9T51B0107	—	—	8.28	—	16.6
3	9T51B0127	—	6.22	—	6.5	—
3	9T51B0207	4.2	—	—	—	—
3	9T51B0108	—	—	16.6	—	33.2
3	9T51B0128	—	12.5	—	13.0	—
3	9T51B0208	8.3	—	—	—	—
3	9T51B0109	—	—	24.8	—	59.6
3	9T51B0129	—	18.7	—	19.5	—
3	9T51B0209	12.5	—	—	—	—
3	9T51B0110	—	—	33.1	—	66.2
3	9T51B0130	—	24.9	—	26.0	—
3	9T51B0210	16.6	—	—	—	—
3	9T51B0111	—	—	49.7	—	99.4
3	9T51B0131	—	37.3	—	39.0	—
3	9T51B0211	24.9	—	—	—	—
3	9T51B0112	—	—	66.3	—	133.0
3	9T51B0132	—	49.7	—	52.0	—
3	9T51B0212	33.2	—	—	—	—
3	9T51B0113	—	—	99.3	—	198.6
3	9T51B0133	—	74.6	—	78.0	—
3	9T51B0213	49.8	—	—	—	—
3	9T21B1037G02	—	—	166.0	—	322.0
3	9T21B1040G02	—	125.0	—	130.0	—
	Connection Diagram Page 10-60	F	H	H	I	I

[1] **Caution:** If input is 3-wire Delta or 4-wire midtapped Delta, the neutral established from the bank of buck-boost transformers must be insulated and isolated from the input power neutral and/or ground.

[2] The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Table 8

480 Volts, 3-Wire Output, 60 Hertz, Three-Phase[1]

Quantity Required Per Bank	Product Number	Available Line Voltage — 3- or 4-Wire			
		400	424	436	450
		Load kVA[2]			
	9T51B0102	—	—	1.74	—
3	9T51B0122	—	1.3	—	2.6
3	9T51B0202	0.866	—	—	—
3	9T51B0103	—	—	2.6	—
3	9T51B0123	—	1.95	—	3.9
3	9T51B0203	1.3	—	—	—
3	9T51B0104	—	—	3.5	—
3	9T51B0124	—	2.6	—	5.2
3	9T51B0204	1.7	—	—	—
3	9T51B0105	—	—	5.2	—
3	9T51B0125	—	3.9	—	7.8
3	9T51B0205	2.6	—	—	—
3	9T51B0107	—	—	8.7	—
3	9T51B0127	—	6.3	—	13.0
3	9T51B0207	4.3	—	—	—
3	9T51B0108	—	—	17.4	—
3	9T51B0128	—	13.0	—	26.0
3	9T51B0208	8.7	—	—	—
3	9T51B0109	—	—	26.0	—
3	9T51B0129	—	19.5	—	39.0
3	9T51B0209	13.0	—	—	—
3	9T51B0110	—	—	35.0	—
3	9T51B0130	—	26.0	—	52.0
3	9T51B0210	17.3	—	—	—
3	9T51B0111	—	—	52.2	—
3	9T51B0131	—	39.0	—	78.0
3	9T51B0211	26.0	—	—	—
3	9T51B0112	—	—	69.0	—
3	9T51B0132	—	52.0	—	104.0
3	9T51B0212	34.6	—	—	—
3	9T51B0113	—	—	104.0	—
3	9T51B0133	—	78.0	—	156.0
3	9T51B0213	51.9	—	—	—
3	9T21B1037G02	—	—	174.0	—
3	9T21B1040G02	—	130.0	—	260.0
	Connection Diagram Page 10-60	F	H	H	I

Table 9

208 Volts, 3-Wire, 60 Hertz, Three-Phase[1]

Quantity Required Per Bank	Product Number	Available Line Voltage — 3- or 4-Wire			
		218	222	229	236
		Load kVA[2]			
2	9T51B0102	1.6	—	0.800	—
2	9T51B0122	—	1.2	—	0.640
2	9T51B0103	2.3	—	1.2	—
2	9T51B0123	—	1.8	—	0.960
2	9T51B0104	3.2	—	1.6	—
2	9T51B0124	—	2.4	—	1.3
2	9T51B0105	4.7	—	2.5	—
2	9T51B0125	—	3.6	—	1.9
2	9T51B0107	7.8	—	4.1	—
2	9T51B0127	—	6.0	—	3.2
2	9T51B0108	16	—	8.0	—
2	9T51B0128	—	12.0	—	6.4
2	9T51B0109	23.6	—	12.4	—
2	9T51B0129	—	18.0	—	9.6
2	9T51B0110	31.5	—	16.5	—
2	9T51B0130	—	24.0	—	12.7
2	9T51B0111	47.5	—	24.8	—
2	9T51B0131	—	36.0	—	19.1
2	9T51B0112	63.0	—	33.0	—
2	9T51B0132	—	48.0	—	25.6
2	9T51B0113	94	—	49.6	—
2	9T51B0133	—	72.0	—	38.3
	Connection Diagram Page 10-60	J	J	Z	Z

[1]**Caution:** If input is 3-wire Delta or 4-wire midtapped Delta, the neutral established from the bank of buck-boost transformers must be insulated and isolated from the input power neutral and/or ground.

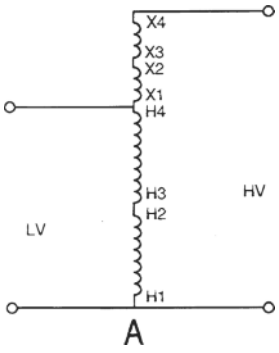
[2]The load kVA is the maximum load at voltages shown when transformers are connected as autotransformers according to the diagram referenced.

Buck-Boost Connection Diagrams

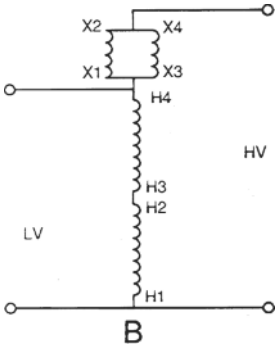
Encapsulated

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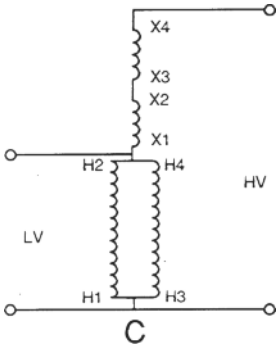
Connection Diagrams



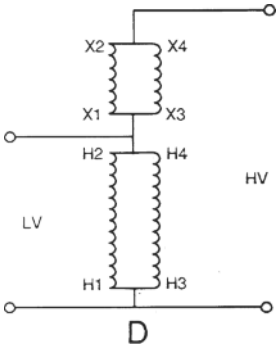
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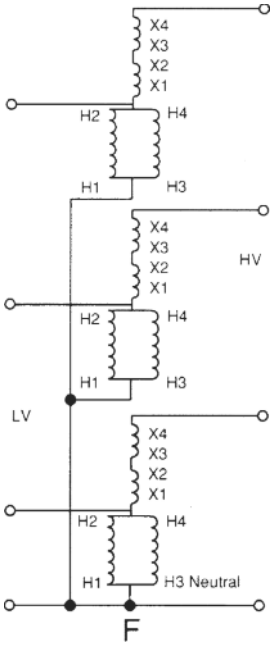
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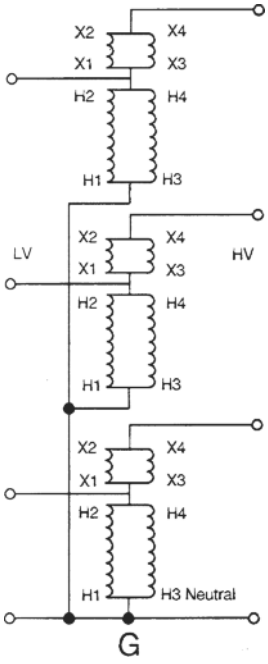
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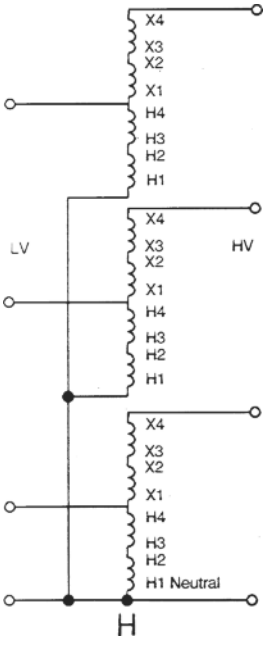
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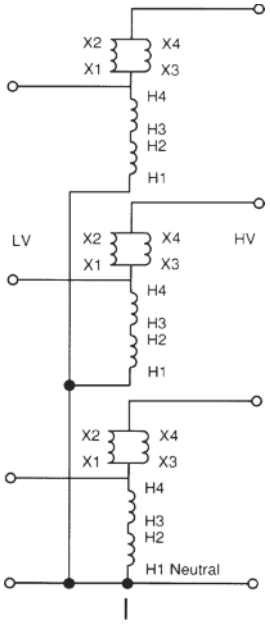
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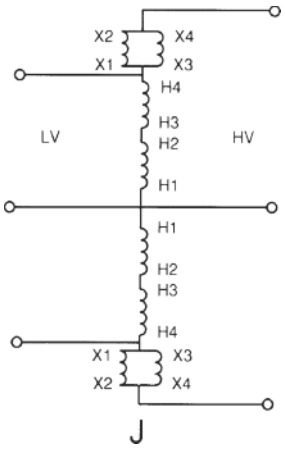
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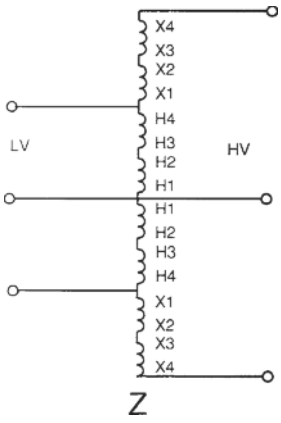
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I



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