

TIPS FROM MARCUS TRANSFORMERS:

TO SELECT THE RIGHT TRANSFORMER FOR YOUR SPECIFIC NEEDS, DETERMINE THE FOLLOWING

- Primary voltage of transformer (available voltage)
- Secondary voltage (voltage required for load equipment)
- Frequency (in Hz) and phases (normally single or three phase)
- KVA load (add total number of pieces of equipment involved). Consider possible future additions
- Is secondary voltage 2 wire or 3 wire (single phase) or 3 wire or 4 wire (three phase)?
- Is double-wound or auto transformer required?
- Is transformer to be floor or wall-mounted?
- Is transformer for use indoors or outdoors?

USE THESE CHARTS TO DETERMINE TRANSFORMER SIZE REQUIRED

TRANSFORMER FULL LOAD CURRENT IN AMPS

KVA	RATED LINE VOLTAGE			
	120	240	480	600
1	8.3	4.2	2.1	1.6
2	16.7	8.4	4.2	3.2
3	25.0	12.5	6.3	5.0
5	41.7	20.8	10.4	8.3
7.5	62.5	31.2	15.6	12.5
10	83.4	41.6	20.8	16.7
15	125	62.5	31.2	25.0
25	208	104	52.1	41.6
37.5	312	156	78.2	62.5
50	416	208	104	83.3
75	625	312	156	125
100	833	416	208	167
150	1250	625	312	250
167	1391	696	348	278
250	2083	1041	521	417
333	2775	1387	684	555
500	4166	2083	1042	833

SINGLE PHASE CALCULATION

$$\text{kVA} = \frac{\text{Volts} \times \text{Amps}}{1000}$$

$$\text{Amps} = \frac{\text{kVA} \times 1000}{\text{Volts}}$$

**THREE PHASE
TRANSFORMER LOAD CURRENT PER LINE IN AMPS**

KVA	RATED LINE VOLTAGE			
	208	240	480	600
6	16.6	14.4	7.2	5.8
9	25.0	21.6	10.8	8.7
10	28.0	24.0	12.0	9.6
15	41.6	36.1	18.1	14.4
30	83.3	72.3	36.1	28.9
45	125	108	54.0	43.2
75	208	181	90.5	72.1
112.5	312	272	136	108
150	416	360	180	144
225	624	541	270	216
300	832	722	361	288
450	1250	1080	542	433
500	1388	1203	601	481
600	1666	1445	722	578

THREE PHASE CALCULATION

$$\text{kVA} = \frac{1.73 \times \text{Volts} \times \text{Amps}}{1000}$$

$$\text{Amps} = \frac{\text{kVA} \times 1000}{1.73 \times \text{Volts}}$$