



Three Phase Buck - Boost Sizing Tables

THREE PHASE BUCK - BOOST TABLE, TYPE M

Type M		Three Phase / Two or Three Units - Type M															
Catalog Number	Load Line	Boost - Increase Voltage										Buck - Decrease Voltage					
		208	208	208	230	240	240	416	416	416	416	208	208	240	240	416	416
		166	173	187	208	216	228	374	377	395	397	230	249	252	264	437	457
35-M005	Load Amps	1.6	2.0	3.6	4.1	1.8	3.9	1.8	2.0	3.9	4.1	4.5	2.4	4.3	2.2	4.3	2.2
	kVA	0.60	0.75	1.30	1.64	0.77	1.64	1.34	1.50	2.85	3.95	1.64	0.90	1.82	0.95	3.12	1.65
	Line Fuse	5	5	7	8	5	7	5	5	7	7	7	5	7	5	7	5
35-M010	Load Amps	3.3	4.1	7.2	8.2	3.7	7.8	3.7	4.1	7.9	8.3	9.1	4.9	8.7	4.5	8.6	4.5
	kVA	1.20	1.49	2.60	3.29	1.55	3.28	2.69	3.00	5.70	5.99	3.29	1.80	3.64	1.90	6.24	3.30
	Line Fuse	7	8	15	12	7	15	7	7.5	15	15	15	7	15		15	7
35-M015	Load Amps	4.9	6.2	10.8	12.4	5.5	11.8	5.6	6.2	11.8	12.4	13.7	7.4	13.1	6.8	12.9	6.8
	kVA	1.80	2.24	3.90	4.94	2.32	4.92	4.04	4.50	8.55	8.99	4.94	2.70	5.46	2.86	9.36	4.95
	Line Fuse	10	12	20	20	10	20	12	10	20	20	20	10	20	10	20	10
85-M020	Load Amps	8.3	10.4	18.0	20.6	9.3	19.7	9.3	10.4	19.7	20.8	22.8	12.4	21.9	11.4	21.6	11.4
	kVA	3.00	3.74	6.50	8.23	3.87	8.20	6.74	7.50	14.26	14.99	8.23	4.50	9.10	4.76	15.60	8.25
	Line Fuse	15	20	30	30	15	30	15	15	30	30	30	15	30	15	30	15
85-M025	Load Amps	16.6	20.8	36.0	41.3	18.6	39.4	18.7	20.8	39.5	41.6	45.7	24.9	43.8	22.9	43.3	22.9
	kVA	6.00	7.49	13.00	16.46	7.75	16.40	13.49	15.00	28.52	29.98	16.46	9.00	18.20	9.53	31.21	16.50
	Line Fuse	30	35	60	60	30	60	30	30	60	60	60	30	60	30	60	30
85-M030	Load Amps	24.9	31.2	54.1	62.0	27.9	59.1	28.0	31.2	59.3	62.42	68.5	37.4	65.7	34.4	64.9	34.3
	kVA	9.00	11.24	19.50	24.69	11.62	24.60	20.23	22.50	42.78	44.97	24.69	13.50	27.31	14.30	46.82	24.75
	Line Fuse	45	50	80	90	45	80	45	45	80	90	80	45	80	45	80	45
85-M035	Load Amps	33.3	41.6	72.1	82.6	37.2	78.9	37.4	41.6	79.1	83.2	91.4	49.9	87.6	45.8	86.6	45.8
	kVA	12.00	14.99	26.00	32.93	15.50	32.80	26.98	30.00	57.05	59.97	32.93	18.00	36.41	19.07	62.49	33.00
	Line Fuse	60	70	110	125	60	110	60	60	110	110	110	60	110	60	110	60
85-M040	Load Amps	49.9	62.4	108.2	124.0	55.9	118.3	56.17	62.45	118.7	124.8	137.1	74.9	131.4	68.8	129.9	68.7
	kVA	18.00	22.49	39.00	49.39	23.25	49.20	40.47	45.00	85.57	89.95	49.39	27.00	54.62	28.61	93.64	49.50
	Line Fuse	80	100	175	175	80	175	80	90	175	175	175	80	175	80	175	80
85-M045	Load Amps	66.6	83.2	144.3	165.3	74.5	157.8	74.8	83.2	158.3	166.4	182.8	99.9	175.2	91.7	173.2	91.6
	kVA	24.0	29.9	52.0	65.8	31.1	65.6	53.9	60.0	114.1	119.9	65.8	36.0	72.8	38.1	124.8	66.0
	Line Fuse	110	150	225	250	110	250	110	125	250	250	225	110	225	110	225	110
85-M050	Load Amps	99.9	124.8	216.5	248.0	111.8	236.7	112.3	124.9	237.5	249.6	274.2	149.9	262.8	137.6	259.9	137.4
	kVA	36.0	44.9	78.8	98.7	46.5	98.4	80.9	90.00	171.1	179.9	98.7	54.0	109.2	57.2	187.2	99.0
	Line Fuse	175	200	350	400	175	250	175	175	350	350	350	175	350	175	350	175
85-M055	Load Amps	166.6	208.1	360.8	413.3	186.4	394.5	187.2	208.1	395.9	416.1	457.0	249.8	438.0	229.4	433.2	229.0
	kVA	60.0	74.9	130.0	164.6	77.5	164.0	134.9	150.0	285.2	299.8	164.6	90.0	182.0	95.3	312.1	165.0
	Line Fuse	300	350	600	600	300	600	200	300	600	600	600	300	600	300	600	300
Qty. Required		3	3	3	3	2	2	3	3	3	3	3	3	2	2	3	3
Connection Dia.		TP-18	TP-22	TP-17	TP-21	TP-5	TP-6	TP-20	TP-24	TP-19	TP-23	TP-13	TP-14	TP-10	TP-9	TP-15	TP-16
Page		62	63	62	63	61	61	63	63	63	63	62	62	62	61	62	62

Single Phase kVA = $\frac{\text{Load Voltage} \times \text{Load Amps}}{1000}$ kVA = $\frac{\text{Volt Amperes}}{1000}$

Three Phase kVA = $\frac{\text{Load Voltage} \times \text{Load Amps} \times 1.73}{1000}$ VA = kVA x 1000

Connection diagrams may be found on Pgs. 61 - 63.

Connections found on this Page require ordering 2 or 3 Buck - Boost Transformers

The appropriate size 35 or 80 Series Transformer may be substituted for the 85 Series where desired.

Three Phase Buck - Boost Sizing Tables

THREE PHASE BUCK - BOOST TABLE, TYPE Y

Type Y		Three Phase / Two and Three Units - Type Y															
Catalog Number	Load Line	Boost - Increase Voltage										Buck - Decrease Voltage					
		208	208	208	235	240	240	240	416	416	471	208	208	208	240	240	416
		152	164	180	208	208	212	224	360	388	416	263	235	240	256	272	390
35-Y005	Load Amps	1.5	1.5	2.6	3.1	1.3	1.5	2.9	1.3	2.9	1.5	1.9	3.5	1.5	3.3	1.77	3.1
	kVA	0.55	0.55	0.96	1.27	0.56	0.64	1.21	0.96	2.09	1.25	0.69	1.27	0.56	1.38	.73	2.25
	Line Fuse	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5.6
35-Y010	Load Amps	3.0	3.1	5.3	6.2	2.7	3.0	5.8	2.6	5.8	3.0	3.8	7.0	3.1	6.6	3.5	6.2
	kVA	1.11	1.11	1.93	2.54	1.12	1.28	2.42	1.93	4.19	2.50	1.39	2.54	1.12	2.77	1.47	4.50
	Line Fuse	5	7	10	12	5	5	10	5	12	6	5	10	5	10	5	7
35-Y015	Load Amps	4.6	4.6	8.0	9.3	4.0	4.6	8.7	4.0	8.7	4.6	5.8	10.6	4.6	10.0	5.3	9.3
	kVA	1.67	1.67	2.89	3.81	1.68	1.92	3.63	2.89	6.28	3.75	2.09	3.81	1.68	4.16	2.21	6.75
	Line Fuse	8	10	12	15	8	9	15	7.5	15	9	8	15	7	15	9	15
85-Y020	Load Amps	7.7	7.7	13.4	15.6	6.7	7.7	14.5	6.7	14.5	7.6	9.7	17.6	7.8	16.6	8.8	15.6
	kVA	2.78	2.79	4.83	6.36	2.81	3.21	6.05	4.83	10.47	6.26	3.49	6.36	2.81	6.93	3.68	11.25
	Line Fuse	12	15	25	30	15	15	25	15	25	15	15	25	10	25	15	25
85-Y025	Load Amps	15.4	15.5	26.8	31.2	13.5	15.4	29.1	13.4	29.0	15.3	19.4	35.3	15.6	33.3	17.7	31.2
	kVA	5.57	5.58	9.66	12.72	5.62	6.42	12.10	9.66	20.94	12.52	6.99	12.72	5.62	13.87	7.37	22.51
	Line Fuse	25	25	45	45	25	25	45	25	45	25	25	45	25	45	25	45
85-Y030	Load Amps	23.1	23.2	40.2	46.9	20.2	23.1	43.6	20.1	43.6	23.0	29.1	53.0	23.4	50.0	26.5	46.8
	kVA	8.35	8.38	14.49	19.09	8.43	9.64	18.15	14.49	31.42	18.78	10.49	19.09	8.43	20.80	11.05	33.76
	Line Fuse	35	45	60	70	35	35	60	35	60	35	30	60	30	60	30	70
85-Y035	Load Amps	30.9	31.0	53.6	62.5	27.0	30.9	58.2	26.8	58.1	30.7	38.8	70.6	31.2	66.7	35.4	62.4
	kVA	11.14	11.17	19.32	25.45	11.25	12.85	24.21	19.32	41.89	25.04	13.98	25.45	11.25	27.74	14.73	45.02
	Line Fuse	45	50	80	90	45	45	80	45	80	45	45	80	40	80	40	90
85-Y040	Load Amps	46.3	46.5	80.4	93.8	40.5	46.3	87.3	40.2	87.2	46.0	58.2	106.0	46.8	100.1	53.1	93.7
	kVA	16.7	16.7	28.9	38.1	16.8	19.2	36.3	28.9	62.8	37.5	20.9	38.1	16.8	41.6	22.1	67.5
	Line Fuse	60	80	125	150	60	70	125	60	125	70	60	125	60	125	70	125
85-Y045	Load Amps	61.8	62.0	107.2	125.0	54.1	61.8	116.4	53.6	116.2	61.4	77.6	141.3	62.4	133.4	70.9	124.9
	kVA	22.2	22.3	38.6	50.9	22.5	25.7	48.4	38.6	83.7	50.0	27.9	50.9	22.5	55.4	29.4	90.0
	Line Fuse	80	100	175	200	80	90	175	80	175	125	80	175	70	175	80	175
85-Y050	Load Amps	92.7	93.0	160.9	187.6	81.1	92.7	174.7	80.4	174.4	92.1	116.4	212.0	93.6	200.2	106.3	187.4
	kVA	33.4	33.5	57.9	76.3	33.7	38.5	72.6	57.9	125.6	75.1	41.9	76.3	33.7	83.2	44.2	135.0
	Line Fuse	125	175	250	300	125	150	250	150	250	150	125	250	125	250	150	250
85-Y055	Load Amps	154.6	155.1	268.1	312.7	135.3	154.6	291.2	134.0	290.7	153.5	194.1	353.3	156.1	333.7	177.2	312.4
	kVA	55.7	55.8	96.6	127.2	56.2	64.2	121.0	96.6	209.4	125.2	69.9	127.2	56.2	138.7	73.6	225.1
	Line Fuse	200	250	400	450	200	225	400	200	400	250	250	400	175	400	200	450
Qty. Required		3	3	3	3	2	2	2	3	3	3	3	3	2	2	2	3
Connection Dia.		TP-18	TP-22	TP-17	TP-21	TP-5	TP-1	TP-6	TP-20	TP-19	TP-24	TP-14	TP-13	TP-2	TP-10	TP-9	TP-23
Page		62	63	62	63	61	61	61	63	63	63	62	62	61	62	61	63

$$\text{Single Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps}}{1000} \quad \text{kVA} = \frac{\text{Volt Amperes}}{1000}$$

$$\text{Three Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps} \times 1.73}{1000} \quad \text{VA} = \text{kVA} \times 1000$$

Connection diagrams may be found on Pgs. 61 - 63.

Connections found on this Page require ordering 2 or 3 Buck - Boost Transformers

The appropriate size 35 or 80 Series Transformer may be substituted for the 85 Series where desired.



Three Phase Buck - Boost Sizing Tables

THREE PHASE BUCK - BOOST TABLE, TYPE LM

Type LM		Three Phase / Two or Three Units - Type LM																	
Catalog Number	Load Line	Boost - Increase Voltage									Buck - Decrease Voltage								
		240	240	240	416	416	440	480	480	480	200	216	230	230	240	240	416	480	480
35-LM010	Load Amps	1.6	2.0	3.7	1.6	2.0	4.1	2.1	1.8	3.9	2.4	4.1	4.5	2.4	4.5	2.5	2.5	4.3	2.2
	kVA	0.68	0.86	1.54	1.20	1.50	3.13	1.80	1.54	3.28	0.86	1.54	1.80	0.98	1.90	1.04	1.80	3.64	1.90
	Line Fuse	5	5	7	5	5	7	5	5	7	5	6	7	5	7	5	5	7	5
35-LM015	Load Amps	2.4	3.1	5.5	2.5	3.1	6.1	3.2	2.7	5.9	3.7	6.1	6.7	3.7	6.8	3.7	3.7	6.5	3.4
	kVA	1.02	1.29	2.31	1.80	2.26	4.70	2.70	2.31	4.92	1.29	2.31	2.70	1.47	2.86	1.56	2.70	5.46	2.86
	Line Fuse	5	6	10	5	6	10	6	5	10	5	9	10	5	10	5	5	10	5
85-LM020	Load Amps	4.0	5.1	9.2	4.1	5.2	10.2	5.4	4.6	9.8	6.2	10.2	11.3	6.1	11.4	6.2	6.2	10.9	5.7
	kVA	1.70	2.15	3.85	3.00	3.76	7.83	4.50	3.85	8.20	2.15	3.85	4.51	2.46	4.76	2.60	4.50	9.10	4.76
	Line Fuse	8	10	15	9	10	15	10	8	15	8	15	15	8	15	9	9	15	9
85-LM025	Load Amps	8.1	10.3	18.5	8.3	10.4	20.5	10.8	9.2	19.7	12.4	20.8	22.6	12.3	12.9	12.5	12.5	21.9	11.4
	kVA	3.40	4.30	7.70	6.01	7.53	15.67	9.00	7.70	16.40	4.30	7.70	9.02	4.92	9.53	5.20	9.01	18.20	9.53
	Line Fuse	15	20	30	15	20	30	20	15	30	15	25	30	15	30	15	15	30	15
85-LM030	Load Amps	12.2	15.5	27.7	12.5	15.6	30.8	16.2	13.8	29.5	18.6	30.8	33.9	18.5	34.4	18.7	18.7	32.8	17.2
	kVA	5.10	6.46	11.55	9.02	11.29	23.51	13.50	11.55	24.60	6.46	11.55	13.5	7.38	14.30	7.80	13.52	27.31	14.30
	Line Fuse	25	25	45	25	25	45	25	25	45	25	45	45	25	45	25	25	45	25
85-LM035	Load Amps	16.3	20.7	37.0	16.7	20.9	41.1	21.6	18.5	39.4	24.8	41.1	45.2	24.7	45.8	25.0	25.0	43.8	22.9
	kVA	6.80	8.61	15.40	12.03	15.06	31.35	18.00	15.40	32.80	8.61	15.40	18.04	9.84	19.07	10.40	18.03	36.41	19.07
	Line Fuse	30	35	60	30	35	60	35	30	60	30	50	60	30	60	30	30	60	30
85-LM040	Load Amps	24.5	31.0	55.5	25.0	31.3	61.7	32.4	27.7	59.1	37.3	61.7	67.9	37.0	68.8	37.5	37.5	65.7	34.4
	kVA	10.2	12.9	23.1	18.0	22.5	47.0	27.0	23.1	49.2	12.9	23.1	27.0	14.7	28.6	15.6	27.0	54.6	28.6
	Line Fuse	45	50	80	45	50	90	50	45	80	45	80	80	45	80	45	45	80	45
85-LM045	Load Amps	32.7	41.4	74.0	33.4	41.8	82.2	43.3	37.0	78.9	49.7	82.3	90.5	49.4	91.7	50.0	50.0	87.6	45.8
	kVA	13.6	17.2	30.8	24.0	30.1	62.7	36.0	30.8	65.6	17.2	30.8	36.0	19.6	38.1	20.8	36.0	72.8	38.1
	Line Fuse	60	60	110	60	70	125	70	60	110	60	100	110	60	110	60	60	110	60
85-LM050	Load Amps	49.0	62.1	111.1	50.1	62.7	123.4	64.9	55.5	118.3	74.6	123.4	135.8	74.1	137.6	75.0	75.0	131.4	68.8
	kVA	20.4	25.8	46.2	36.1	45.1	94.0	54.0	46.2	98.4	25.8	46.2	54.1	29.5	57.2	31.2	54.1	109.2	57.2
	Line Fuse	80	100	175	80	100	175	100	80	175	80	150	175	80	175	80	80	175	80
85-LM055	Load Amps	81.7	103.6	185.2	83.5	104.5	205.6	108.2	92.6	197.2	124.3	205.8	226.4	123.5	229.4	125.1	125.1	219.0	114.7
	kVA	34.0	43.0	77.0	60.1	75.3	156.7	90.0	77.6	164.0	43.0	77.0	90.2	49.2	95.3	52.0	90.1	182.0	95.3
	Line Fuse	150	175	300	150	175	300	175	150	300	150	250	300	150	300	150	150	300	150
Qty. Required Connection Dia. Page		2 TP-7 61	2 TP-3 61	2 TP-4 61	3 TP-18 62	3 TP-22 63	3 TP-21 63	3 TP-22 63	2 TP-5 61	2 TP-6 61	2 TP-11 62	2 TP-8 61	2 TP-12 62	2 TP-11 62	2 TP-12 62	2 TP-11 62	3 TP-14 62	2 TP-10 62	2 TP-9 61

$$\text{Single Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps}}{1000}$$

$$\text{kVA} = \frac{\text{Volt Amperes}}{1000}$$

$$\text{Three Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps} \times 1.73}{1000}$$

$$\text{VA} = \text{kVA} \times 1000$$

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