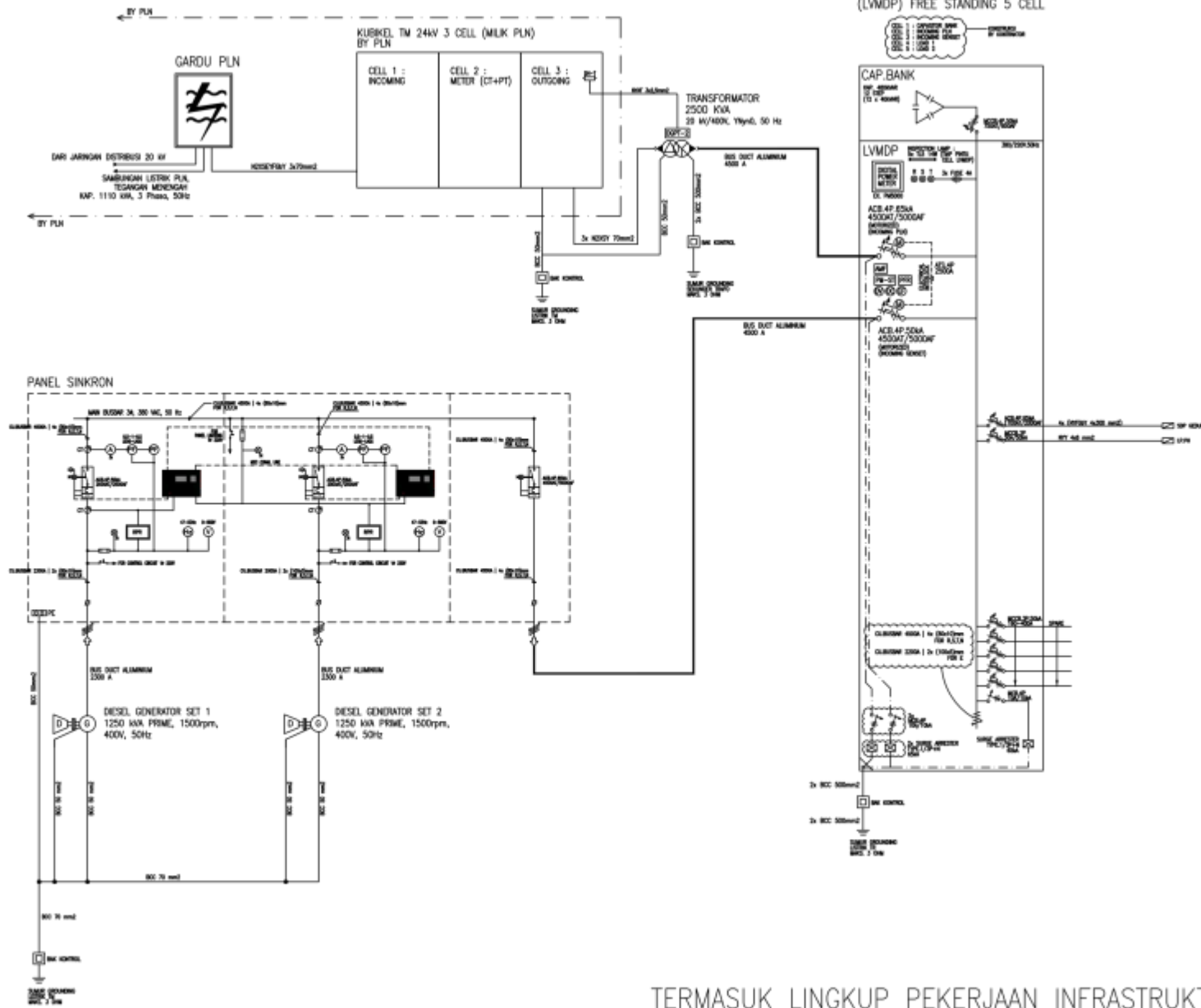


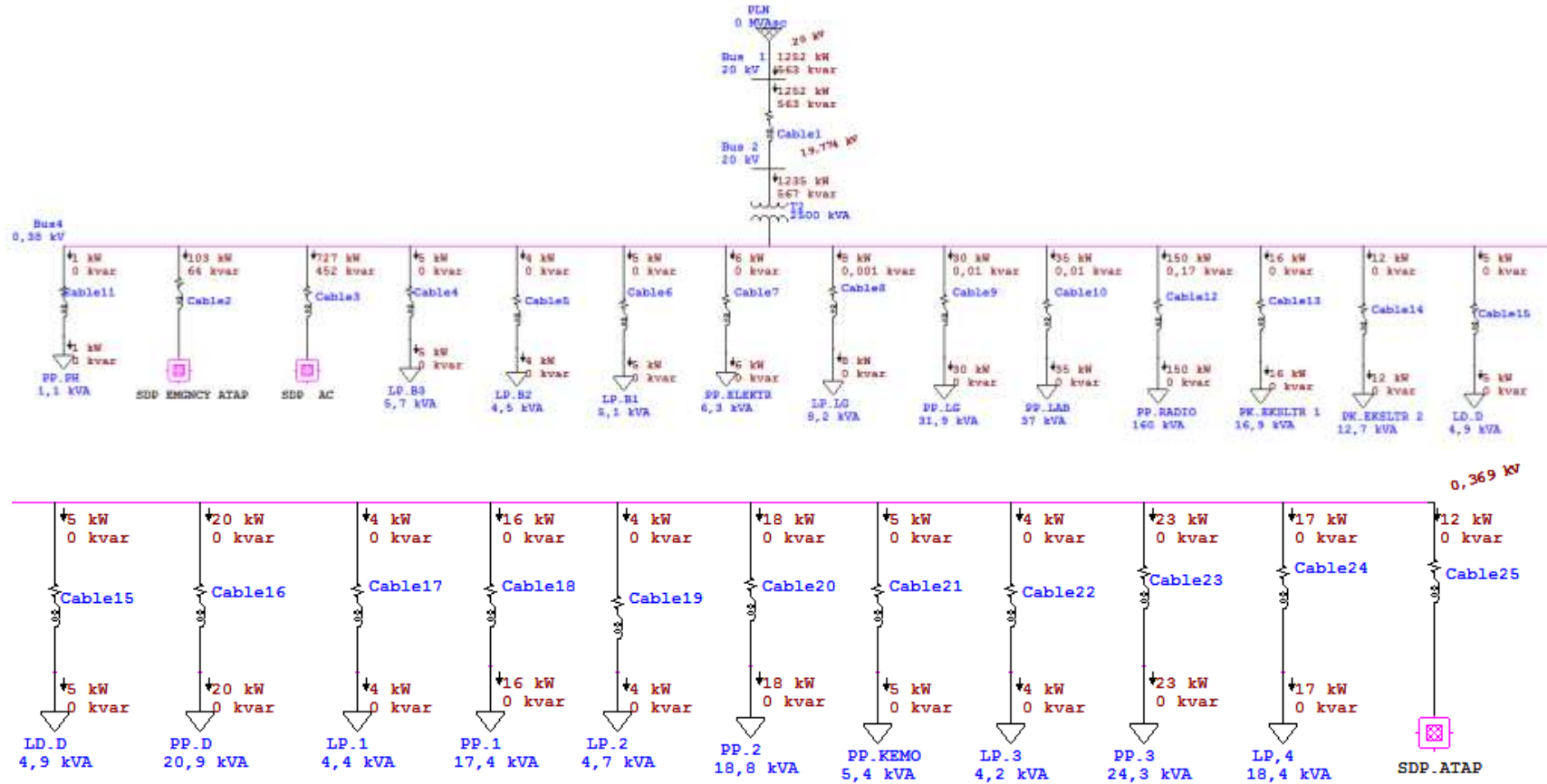
# **LAMPIRAN**



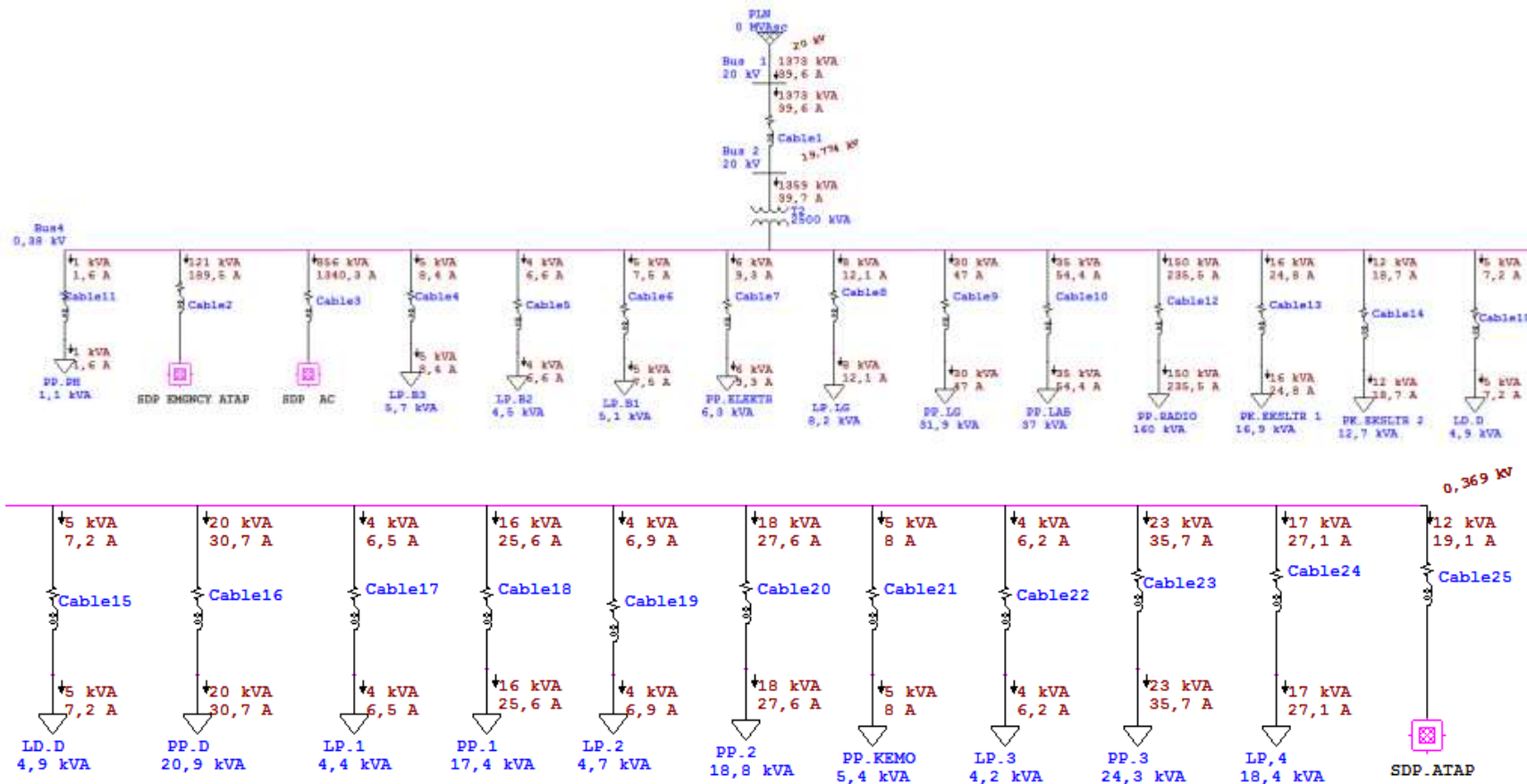
TERMASUK LINGKUP PEKERJAAN INFRASTRUKTUR

**GAMBAR DIAGRAM SINGLE LINE  
SISTEM LISTRIK GEDUNG BARU RS  
PANTI RAPIH YOGYAKARTA  
DENGAN *SOFTWARE* ETAP**

# SINGLE LINE LVMDP GEDUNG BARU RS PANTI RAPIH YOGYAKARTA SEBELUM PENGGUNAAN KAPASITOR BANK

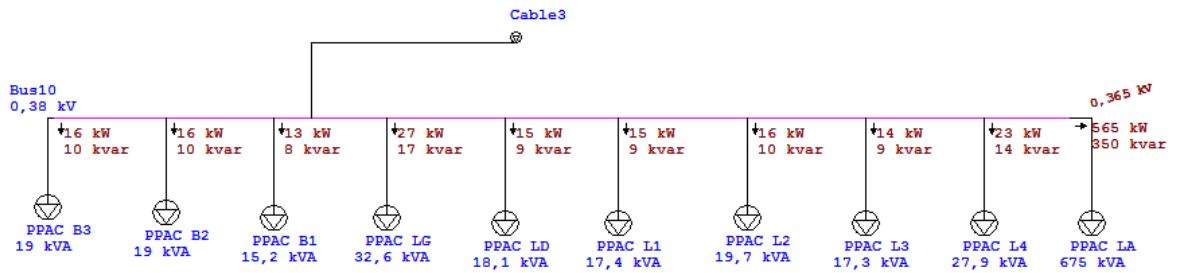


SINGLE LINE LVMDP GEDUNG BARU RS PANTI RAPIH YOGYAKARTA SEBELUM PENGGUNAAN KAPASITOR BANK

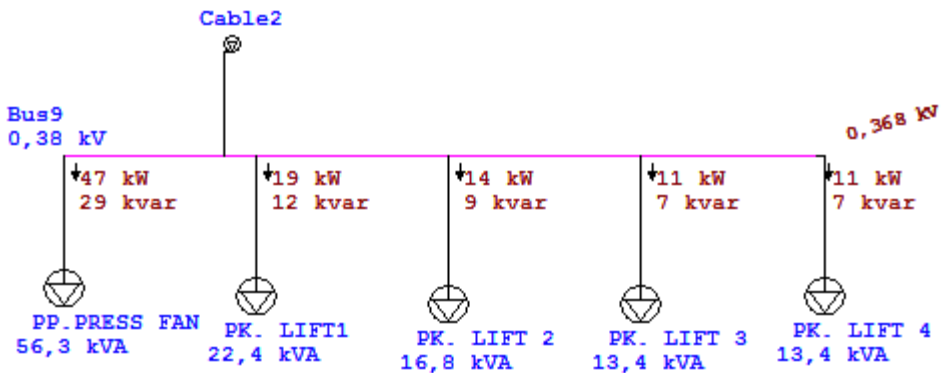


SINGLE LINE PANEL SDP *EMERGENCY*, AC DAN ATAP GEDUNG BARU  
RS PANTI RAPIH YOGYAKARTA SEBELUM PENGGUNAAN KAPASITOR  
BANK PENGAMATAN DAYA AKTIF & DAYA REAKTIF

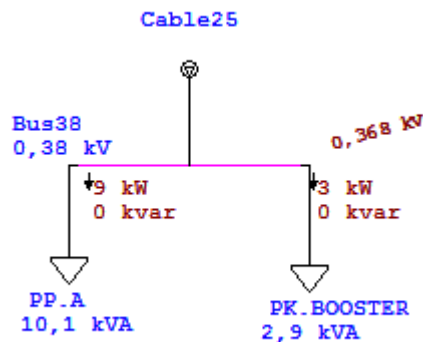
- Panel AC



- Panel *Emergency*

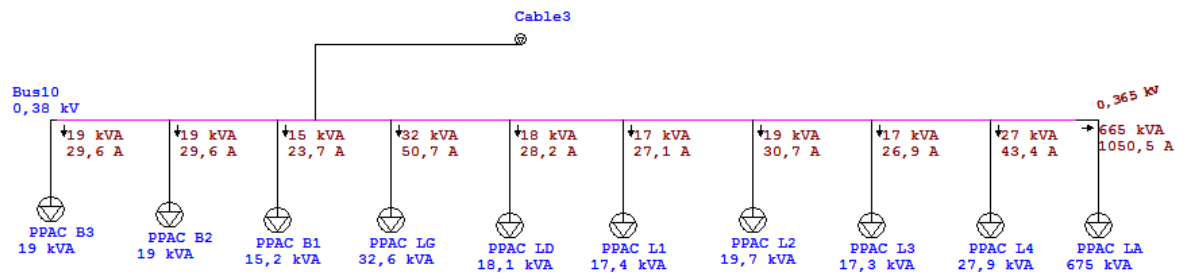


- Panel Atap

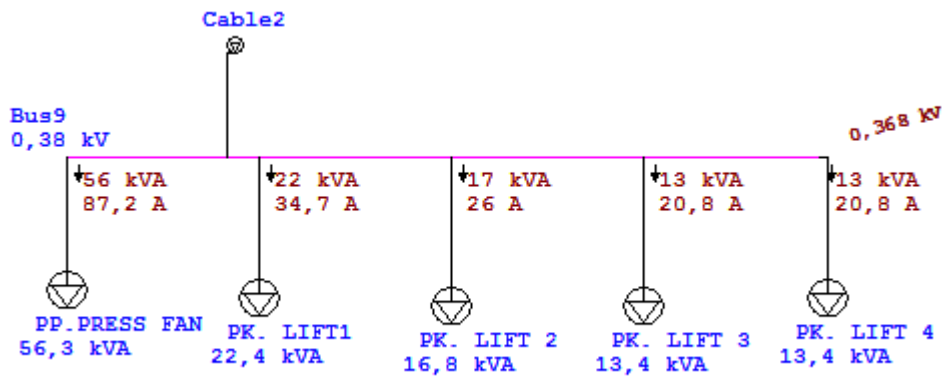


SINGLE LINE PANEL SDP *EMERGENCY*, AC DAN ATAP GEDUNG BARU  
RS PANTI RAPIH YOGYAKARTA SEBELUM PENGGUNAAN KAPASITOR  
BANK PENGAMATAN DAYA SEMU & ARUS

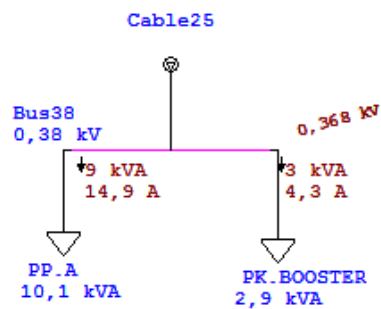
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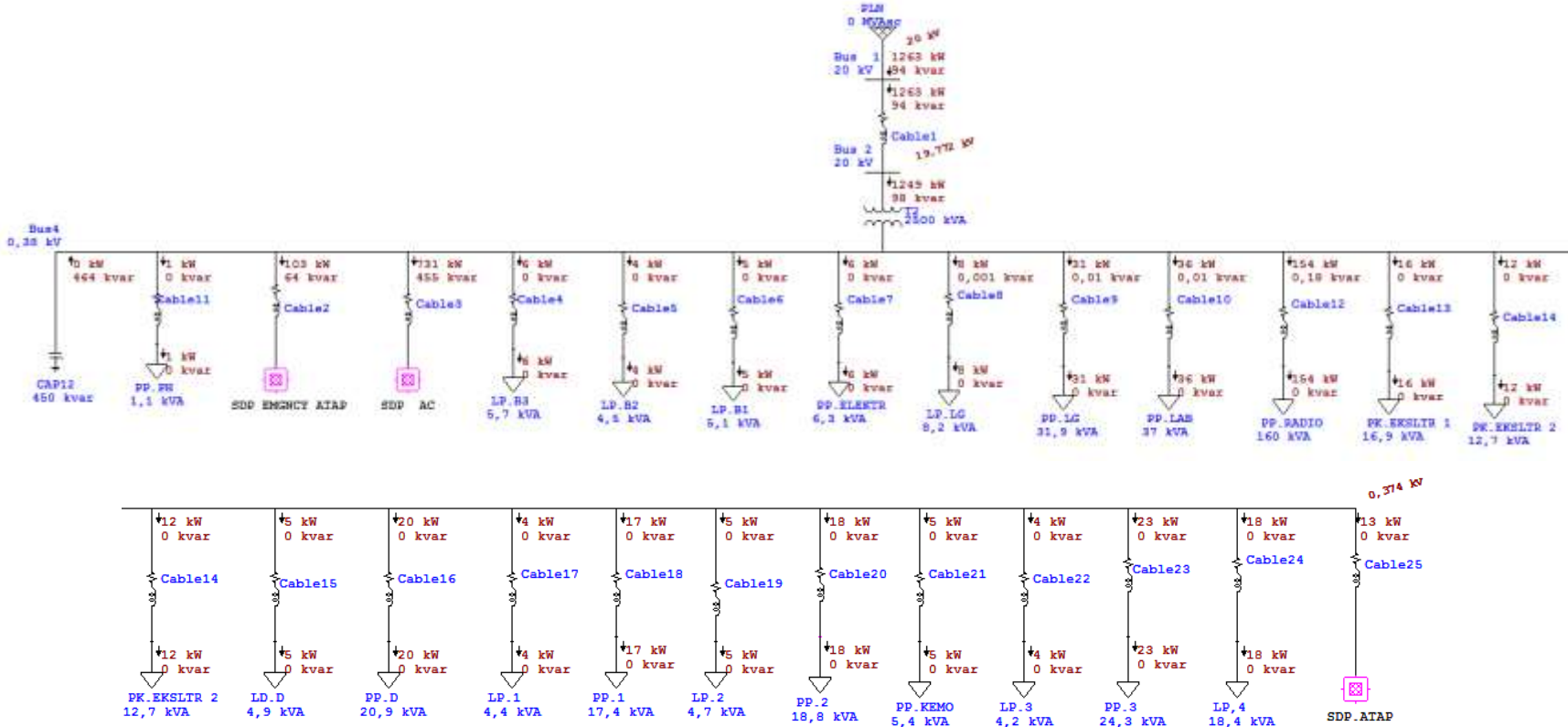
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- Panel Atap

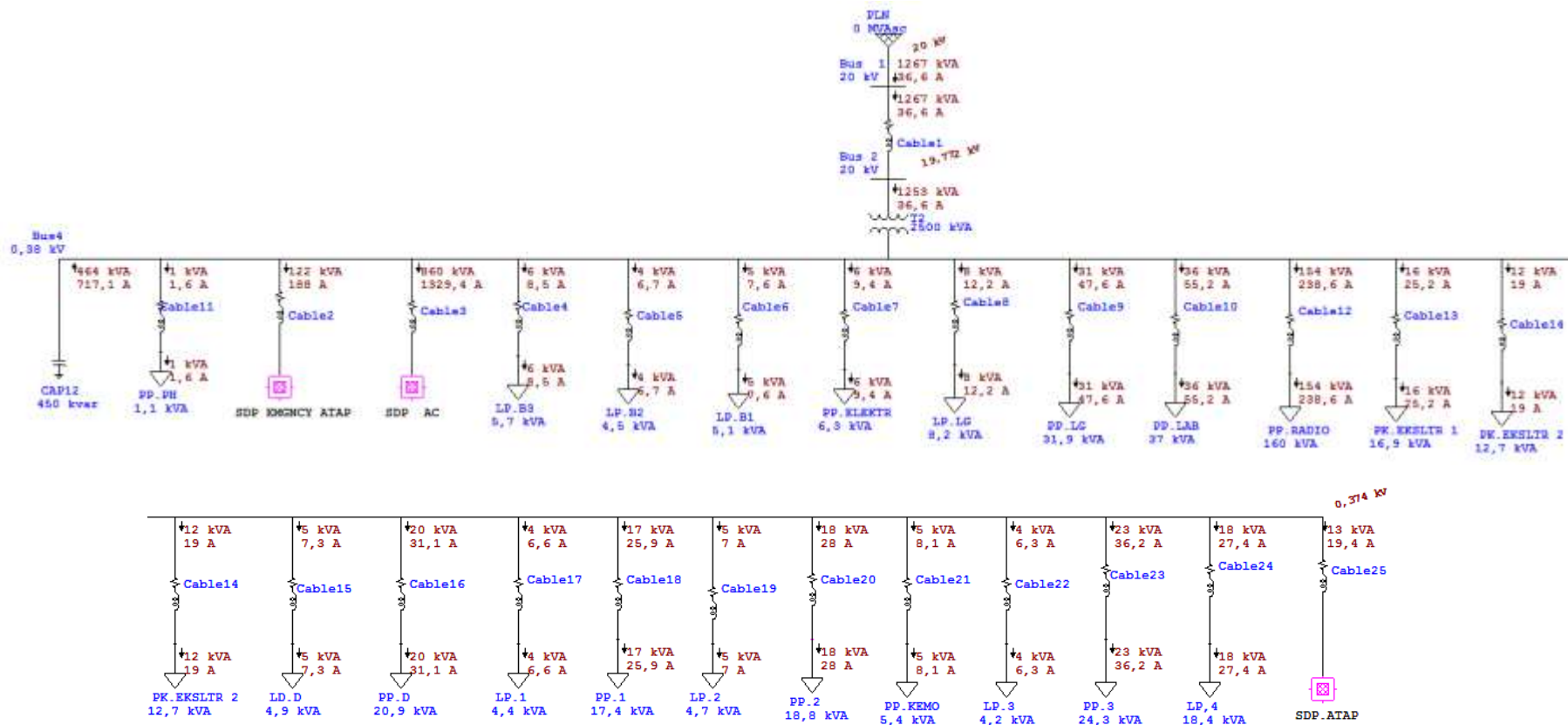


# SINGLE LINE LVMDP GEDUNG BARU RS PANTI RAPIH YOGYAKARTA SETELAH PENGGUNAAN KAPASITOR BANK



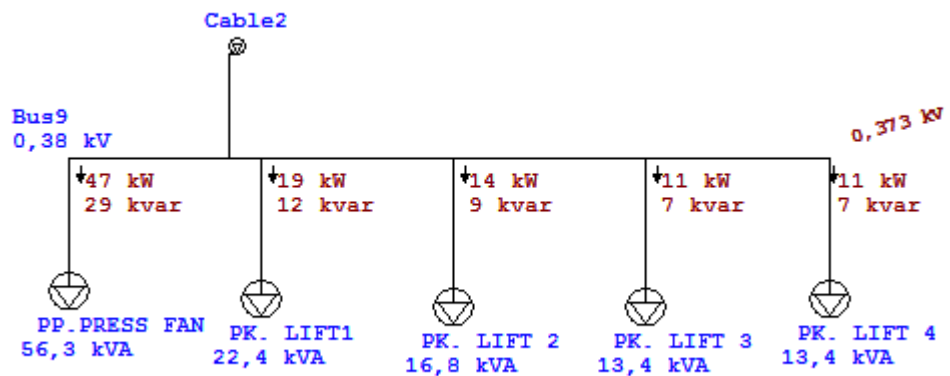


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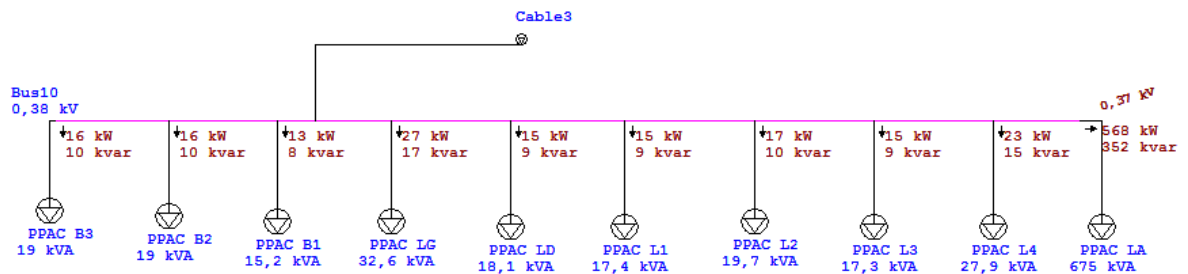


SINGLE LINE PANEL SDP *EMERGENCY*, AC DAN ATAP GEDUNG BARU  
RS PANTI RAPIH YOGYAKARTA SETELAH PENGGUNAAN KAPASITOR  
BANK PENGAMATAN DAYA AKTIF & DAYA REAKTIF

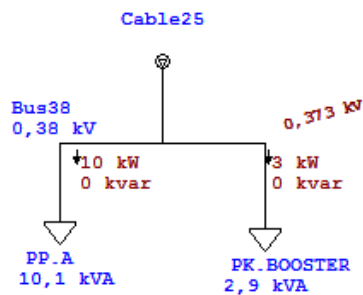
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- Panel AC

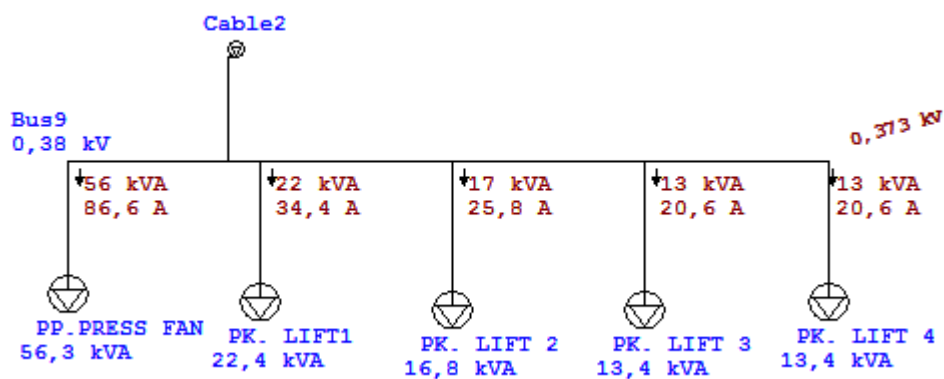


- Panel Atap

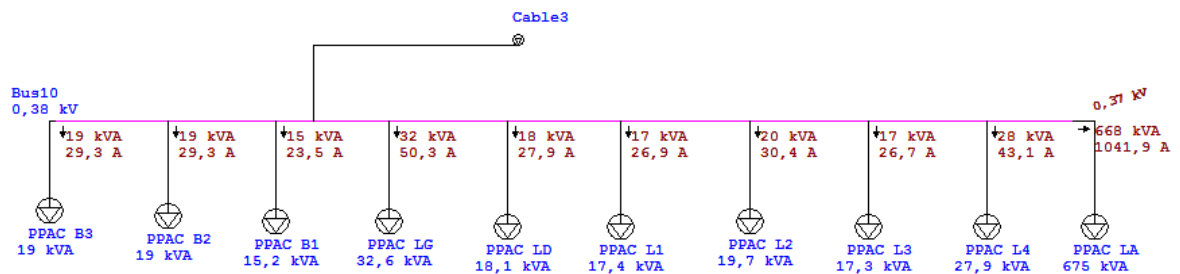


SINGLE LINE PANEL SDP *EMERGENCY*, AC DAN ATAP GEDUNG BARU  
RS PANTI RAPIH YOGYAKARTA SETELAH PENGGUNAAN KAPASITOR  
BANK PENGAMATAN DAYA SEMU & ARUS

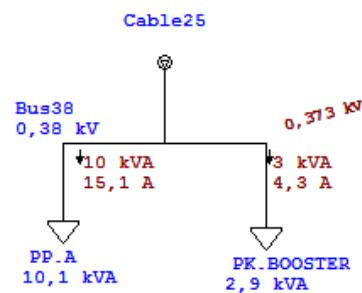
- Panel *Emergency*



- Panel AC



- Panel Atap



**BROSUR**

## Kapasitor VarPlus (Heavy Duty) Kapasitor Untuk Jaringan Berharmonik

PTPFC

### Aplikasi

Kapasitor jenis H-duty didesain khusus untuk jaringan 400/415 V, yang terpolusi oleh harmonik tersedia dalam 2 pilihan bentuk: VarPlus Can (silinder) dan VarPlus Box (kotak)

#### VarPlus Can (Hduty), Tegangan Jaringan 400 V (Maks. 440 V)



VarPlus Can

Daya Reaktif (kVAR)	Kode Dimensi	Referensi	Harga (Rp)	SS
10.4	MC	BLRCH104A125B40	1,355,750	1
12.5	RC	BLRCH125A150B40	1,585,000	2
15	RC	BLRCH150A180B40	1,833,700	1
20	TC	BLRCH200A240B40	2,256,650	1
25	TC	BLRCH250A300B40	2,545,950	1
50	YC	BLRCH500A600B40	4,527,500	1

5

#### VarPlus Box (HDuty), Tegangan Jaringan 400 V (Maks. 440 V)



VarPlus Box

Daya Reaktif (kVAR)	Kode Dimensi	Referensi	Harga (Rp)	SS
25	GB	BLRBH250A300B40	3,863,300	2
41	IB	BLRBH417A500B40	4,654,100	1
50	IB	BLRBH500A600B40	5,472,500	1

### Karakteristik Teknis

Standards	IEC 60831-1/-2
Toleransi kelebihan tegangan	1.1 x Un (8 Jam/hari)
Toleransi kelebihan arus	1.8 x In
Tegangan	400 Vac
Frekuensi	50 / 60 Hz
Arus Inrush Puncak	250 x In
Suhu	-25 <sup>o</sup> - 55 <sup>o</sup> C
Pemasangan	Tegak Lunas (Can/Box) atau mendatar (Can), Indoor
Toleransi kapasitansi	-5%, +10%

5.9

Harga sudah termasuk PPN 10%

Schneider  
Electric

## Detuned Reactor Asosiasi dengan Capacitor

PTPFC

### Aplikasi



Detuned Reactor

Jika polusi harmonik cukup tinggi ( $20\% < Gh/Sn < 30\%$ ), maka harus menggunakan Detuned Reactor yang dirangkai seri dengan kapasitor tipe HDuty

Pemasangan Detuned Reactor akan memberikan keuntungan :

- Melindungi kapasitor dari kerusakan akibat kelebihan tegangan/arus karena harmonik yang terlalu tinggi
- Penurunan presentase harmonik pada jaringan, sehingga peralatan elektronik tidak akan cepat rusak

Detuned Reactor

Daya Reaktif (kVAR)	Induktansi (mH)	Referensi	Harga (Rp)	SS
12,5	2,37	LVR07125A40T	8,287,400	2
25	1,18	LVR07250A40T	9,545,800	1
50	0,592	LVR07500A40T	11,631,950	1
100	0,296	LVR07X00A40T	18,014,900	1

Catatan :

- Untuk kompensasi tetap, Detuned Reactor bisa disambungkan ke beberapa tumpuk kapasitor (capacitor bank) yang membentuk daya total sesuai dengan daya Detuned Reactor.  
Contoh: Detuned Reactor 100 kvar disambungkan ke dua bank yang masing-masing memiliki daya : 50 kvar.

Tabel Asosiasi Detuned Reactor + Kapasitor HDuty

VarPlus Can HDuty, Tegangan Kapasitor : 525 V

Daya Reaktif (kVAR)	Kode Dimensi	Referensi	Harga (Rp)	SS
20	TC	BLRCH200A240B52	2,018,500	1
25	TC	BLRCH250A300B52	2,825,150	1
40	XC	BLRCH400A480B52	3,848,350	1

VarPlus Box HDuty, Tegangan Kapasitor : 525 V

Daya Reaktif (kVAR)	Kode Dimensi	Referensi	Harga (Rp)	SS
25	GB	BLRBH250A300B52	3,059,650	2
40	IB	BLRBH400A480B52	4,279,000	1



Individual capacitor protector by circuit breaker

Detuned Reactor

### Kombinasi untuk Tegangan Jaringan 400V, 50Hz - Tegangan Kapasitor 525V - 7% Filler

Effective Power @ 400V (kVAR)	QN @ 525V (kVAR)	Referensi Kapasitor	Tipe Kapasitor (HDuty)	7% f=180Hz D.R. Ref.	Capacitor Duty Contactor (Ref.)	Breaker Compact NSX (Icu: 50kA)
12,5	20,0	BLRCH200A240B52 x 1	VarPlus Can	LVR07125A40T x 1	LC1DFK11M7 x 1	LV42984E
25	40,1	BLRCH200A240B52 x 2 BLRBH400A480B52 x 1	VarPlus Can VarPlus Box	LVR07250A40T x 1	LC1DMK11M7 x 1	LV42984J
50	80,1	BLRCH400A480B52 x 1 BLRBH400A480B52 x 2	VarPlus Can VarPlus Box	LVR07500A40T x 1	LC1DVK12M7 x 1	LV42984D
100	160,2	BLRCH400A480B52 x 2 BLRBH400A480B52 x 4	VarPlus Can VarPlus Box	LVR07X00A40T x 1	None <sup>1)</sup>	LV43183I

Catatan :

<sup>1)</sup> Untuk 80kVar ke atas, penggunaan bisa dengan kombinasi kontaktor kapasitor atau kontaktor standard + induktor koil

### Paket Kombinasi VarPlus Can dan Detuned Reactor untuk Tegangan Jaringan 400V, 50Hz

Effective Power @ 400V (kVAR)	QN @ 525V (kVAR)	Isi Paket terdiri dari:		Referensi Paket	Harga (Rp)	SS
		Item	Qty	Referensi		
12,5	20,0	Capacitor	2	BLRCH200A240B52	CAPCDR125	8,242,950
		Detuned Reactor	1	LVR07125A40T		
25	40,1	Capacitor	2	BLRCH200A240B52	CAPCDR250	10,862,500
		Detuned Reactor	1	LVR07250A40T		
50	80,1	Capacitor	2	BLRCH400A480B52	CAPCDR500	13,601,500
		Detuned Reactor	1	LVR07500A40T		
100	160,2	Capacitor	4	BLRCH400A480B52	CAPCDRX00	25,125,100
		Detuned Reactor	1	LVR07X00A40T		



Harga sudah termasuk PPN 10%

5.9

## KAPASITAS KAPASITOR BANK

### VarSet Detuned Capacitor Banks

Catalog No.	Power (kVAR)	Smallest step	Resolution	No. of electrical steps	No. of physical steps	Enclosure size (H x W x D)	Max weight
<b>With incoming circuit breaker</b>							
<a href="#">VLVAF4P86075AB</a>	75	25	25 + 50	6	6	47.2 x 51.2 x 15.7 inch (1200 x 1300 x 400 mm)	265 kgs / 585 lbs
<a href="#">VLVAF4P86100AB</a>	100	25	25 + 25 + 50	4	4		
<a href="#">VLVAF4P86125AB</a>	125	25	25 + 2 x 50	5	5		
<a href="#">VLVAF4P86150AB</a>	150	25	25 + 25 + 2 x 50	6	6		
<a href="#">VLVAF4P86175AB</a>	175	25	25 + 3 x 50	7	7		
<a href="#">VLVAF4P86200AB</a>	200	50	4 x 50	5	5		
<a href="#">BV025046CV5F1N</a>	250	50	50 + 2 x 100	5	5	91.5 x 30 x 36 inch (2324 x 762 x 915 mm)	747 kgs / 1650 lbs
<a href="#">BV030046BV5F1N</a>	300	50	50 + 50 + 2 x 100	6	6		793 kgs / 1750 lbs
<a href="#">BV035046CV5F2N</a>	350	50	50 + 3 x 100	7	7	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1110 kgs / 2450 lbs
<a href="#">BV040046AV8F2N</a>	400	100	4 x 100	4	4		1155 kgs / 2550 lbs
<a href="#">BV045046CV5F2N</a>	450	50	50 + 4 x 100	9	9		1223 kgs / 2700 lbs
<a href="#">BV050046AV8F2N</a>	500	100	5 x 100	5	5		1291 kgs / 2850 lbs
<a href="#">BV055046CV5F2N</a>	550	50	50 + 5 x 100	11	11	1359 kgs / 3000 lbs	
<a href="#">BV060046AV8F2N</a>	600	100	6 x 100	6	6	1427 kgs / 3150 lbs	
<a href="#">BV065046CV5F2N</a>	650	50	50 + 6 x 100	13	13	1495 kgs / 3300 lbs	
<a href="#">BV070046AV8F2N</a>	700	100	7 x 100	7	7	1563 kgs / 3450 lbs	
<a href="#">BV075046CV5F3N</a>	750	50	50 + 7 x 100	15	15	91.5 x 90 x 36 inch (2324 x 2286 x 915 mm)	1835 kgs / 4050 lbs
<a href="#">BV080046AV8F3N</a>	800	100	8 x 100	8	8		1903 kgs / 4200 lbs
<b>With main lugs</b>							
<a href="#">VLVAF4P86075AA</a>	75	25	25 + 50	6	2	47.2 x 51.2 x 15.7 inch (1200 x 1300 x 400 mm)	265 kgs / 585 lbs
<a href="#">VLVAF4P86100AA</a>	100	25	25 + 25 + 50	4	3		
<a href="#">VLVAF4P86125AA</a>	125	25	25 + 2 x 50	5	3		
<a href="#">VLVAF4P86150AA</a>	150	25	25 + 25 + 2 x 50	6	4		
<a href="#">VLVAF4P86175AA</a>	175	25	25 + 3 x 50	7	4		
<a href="#">VLVAF4P86200AA</a>	200	50	4 x 50	5	4		

AV025046CV5F1N	250	50	50 + 2 x 100	5	3	91.5 x 30 x 36 inch (2324 x 762 x 915 mm)	612 kgs / 585 lbs
AV030046BV5F1N	300	50	50 + 50 + 2 x 100	6	4		667 kgs / 1450 lbs
AV035046CV5F1N	350	50	50 + 3 x 100	7	4		725 kgs / 1600 lbs
AV040046AV8F1N	400	100	4 x 100	4	4		793 kgs / 1750 lbs
AV045046CV5F2N	450	50	50 + 4 x 100	9	5	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1132 kgs / 2500 lbs
AV050046AV8F2N	500	100	5 x 100	5	5		1200 kgs / 2650 lbs
AV055046CV5F2N	550	50	50 + 5 x 100	11	6		1268 kgs / 2800 lbs
AV060046AV8F2N	600	100	6 x 100	6	6		1336 kgs / 2950 lbs
AV065046CV5F2N	650	50	50 + 6 x 100	13	7		1404 kgs / 3100 lbs
AV070046AV8F2N	700	100	7 x 100	7	7		1472 kgs / 3250 lbs
AV075046CV5F2N	750	50	50 + 7 x 100	15	8		1540 kgs / 3400 lbs
AV080046AV8F2N	800	100	8 x 100	8	8		1608 kgs / 3550 lbs

### VarSet Fast Capacitor Banks

Catalog No.	Power (kVAr)	Smallest step	Resolution	No. of electrical and physical steps	Enclosure size (H * W * D)	Max weight
<b>With incoming circuit breaker</b>						
BT045046AVBF2N	450	150	3 x 150	6	91.5 x 30 x 36 inch (2324 x 762 x 915 mm)	900 kgs / 2000 lbs
BT060046AVBF2N	600	150	4 x 150	4	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1400 kgs / 3100 lbs
BT090046AVBF3N	900	150	6 x 150	5	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1540 kgs / 3400 lbs
BT120046AVBF3N	1200	150	8 x 150	6	91.5 x 90 x 36 inch (2324 x 2286 x 915 mm)	2310 kgs / 5100 lbs
<b>With main lugs</b>						
AT045046AVBF2N	450	150	3 x 150	6	91.5 x 30 x 36 inch (2324 x 762 x 915 mm)	770 kgs / 1700 lbs
AT060046AVBF2N	600	150	4 x 150	4	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1360 kgs / 3000 lbs
AT090046AVBF3N	900	150	6 x 150	5	91.5 x 60 x 36 inch (2324 x 1524 x 915 mm)	1500 kgs / 3300 lbs
AT120046AVBF3N	1200	150	8 x 150	6	91.5 x 90 x 36 inch (2324 x 2286 x 915 mm)	2270 kgs / 5000 lbs