

POWER FACTOR CORRECTION CAPACITOR CALCULATOR

Project: MCC 2 capacitor bank

Calc no: CALC PF 001

Rev: 0

Yellow cells: enter data. Grey cells: calculated automatically. Free template from instrumentationblog.in

Load			
Active power P (kW)	100	Existing power factor	0.8
Target power factor	0.95	Line voltage (V)	415
Frequency (Hz)	50	Bank connection	Delta

Result			
Capacitor rating (kVAR)	42.1	kVA before	125.0
kVA after	105.3	Line current before (A)	173.9
Line current after (A)	146.4	Capacitor line current (A)	58.6
Capacitance per phase (μF)	259.6		

kVAR for other target power factors			
Target PF	kVAR needed	Line current (A)	kVA
0.85	13.0	163.7	117.6
0.90	26.6	154.6	111.1
0.92	32.4	151.2	108.7
0.95	42.1	146.4	105.3
0.97	49.9	143.4	103.1
0.98	54.7	142.0	102.0
0.99	60.8	140.5	101.0
1.00	75.0	139.1	100.0

Avoid over correction (leading PF) at light load: use an automatic stepped bank. Where VFDs or other harmonic sources are present, use detuned capacitors with series reactors.

Prepared by		Checked by	
Name:		Name:	
Signature:		Signature:	
Date:		Date:	