

POWER FACTOR CORRECTION

Motors

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Transmission and
Distribution

Coatings



WEG Electric Improving Plant Life with Power Factor Correction Capacitors



Reduce Utility Costs - improved Power Factor can reduce or eliminate Power Factor penalties from Utility Co.

Improve System Capacity - additional loads can be added to the facility for the same KVA.

Reduce Capital Spending - utilize existing infrastructure.

Increase the Life Span of motors, equipment, and conductors.

Is your company doing its part to be Energy Efficient?

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**Your World
Your Energy
Go Green
with WEG**



ISO 14001 -
Environmental Management
System Certification

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Products	Series ⁽¹⁾	Technical Characteristics			Standards	Certifications ⁽²⁾	Pages
		Power	Rated Voltage	Connection Type			
UCW Series Single Phase Capacitive Units 	A	0.62...0.83 [kVAr]	380...480 [V]	-	IEC 60831-1/2 UL 810	 ⁽³⁾	18
	B	0.62...6.67 [kVAr]	208...480 [V]	-	IEC 60831-1/2 UL 810	 ⁽³⁾	
	C	3.72...10.0 [kVAr]	208...480 [V]	-	IEC 60831-1/2 UL 810	 ⁽³⁾	
UCWT Series Three Phase Capacitive Units 	D	0.37...5.0 [kVAr]	208...480 [V]	Δ (Delta)	IEC 60831-1/2 UL 810	 ⁽³⁾	21
	E	3.72...25.0 [kVAr]	208...480 [V]	Δ (Delta)	IEC 60831-1/2 UL 810	 ⁽³⁾	
	F	7.48...25.0 [kVAr]	208...480 [V]	Δ (Delta)	IEC 60831-1/2 UL 810	 ⁽³⁾	
MCW Series Three Phase Capacitor Module 	-	1.85...15.0 [kVAr]	208...480 [V]	Δ (Delta)	IEC 60831-1/2 UL 810		24
BCW Series Three Phase Enclosed Capacitor 	-	0.5...75 [kVAr]	240...480 [V]	Δ (Delta)	UL 810		32
CWMC Contactors for Switching of Capacitors 	-	Up to 77 kVAr	Up to 690V	-	IEC 60947-1 UL 508		37

1) For easier identification, the capacitors are sorted according to their mechanical and electrical characteristics (see page 4 to 9).

2) For additional information, contact WEG.

3)  in progress



Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

240Vac 60Hz



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SYNCHRONOUS SPEED OF MOTOR

HP	3600 RPM				1800 RPM			
	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price
1	0.5	15	BCWTC050V29A4-N	\$603	BCWTC050V29A4-F	\$603	BCWTC075V29A4-N	\$606
1.5	0.75	15	BCWTC075V29A4-N	\$606	BCWTC075V29A4-F	\$606	BCWTC075V29A4-N	\$606
2	1	15	BCWTC100V29A4-N	\$609	BCWTC100V29A4-F	\$609	BCWTC100V29A4-N	\$609
3	1.5	14	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$617	BCWTC150V29A4-N	\$617
5	2	14	BCWTC200V29A4-N	\$624	BCWTC200V29A4-F	\$624	BCWTC250V29B4-N	\$643
7.5	2.5	14	BCWTC250V29B4-N	\$643	BCWTC250V29B4-F	\$643	BCWTC300V29B4-N	\$650
10	3	14	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$650	BCWTC300V29B4-N	\$650
15	5	12	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$709	BCWTC500V29B4-N	\$709
20	5	12	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$709	BCWTC500V29B4-N	\$709
25	7.5	12	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$810	BCWTC750V29C4-N	\$810
30	7.5	11	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$810	BCWTC750V29C4-N	\$810
40	10	12	BCWTD100V29E4-N	\$967	BCWTD100V29E4-F	\$967	BCWTD125V29E4-N	\$1,055
50	12.5	12	BCWTD125V29E4-N	\$1,055	BCWTD125V29E4-F	\$1,055	BCWTD125V29E4-N	\$1,055
60	15	12	BCWTD150V29E4-N	\$1,121	BCWTD150V29E4-F	\$1,121	BCWTD175V29E4-N	\$1,342
75	20	12	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,374	BCWTD200V29E4-N	\$1,374
100	20	10	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,374	BCWTD200V29E4-N	\$1,374
125	25	10	BCWTD250V29E4-N	\$1,475	BCWTD250V29E4-F	\$1,475	BCWTD300V29F4-N	\$1,576
150	30	10	BCWTD300V29E4-N	\$1,576	BCWTD300V29E4-F	\$1,576	BCWTD350V29F4-N	\$1,791
200	35	10	BCWTD350V29F4-N	\$1,791	BCWTD350V29F4-F	\$1,791	BCWTD400V29F4-N	\$1,892
250	40	11	BCWTD400V29F4-N	\$1,892	BCWTD400V29F4-F	\$1,892	③	③
300	45	11	BCWTD450V29F4-N	\$1,994	BCWTD450V29F4-F	\$1,994	③	③
350	50	12	③		③		③	
400	75	10	③		③		③	
450	75	8	③		③		③	
500	100	8	③		③		③	

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z1".
② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.
③ Higher KVARs can be obtained by paralleling two or more units. I.e.: to obtain 100KVAR, two 50KVAR units can be used.
④ For 208Vac 60Hz applications, derate the 240Vac capacitors. The KVAR at 208Vac will be 0.75 times the KVAR at 240Vac
⑤ For other voltages, please contact WEG.

Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

240Vac 60Hz

SYNCHRONOUS SPEED OF MOTOR

HP	1200 RPM					900 RPM				
	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price
1	1	29	BCWTC100V29A4-N	\$609	BCWTC100V29A4-F	\$839	1.5	39	BCWTC150V29A4-N	\$617
1.5	1	29	BCWTC100V29A4-N	\$609	BCWTC100V29A4-F	\$839	1.5	39	BCWTC150V29A4-N	\$617
2	1.5	29	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$847	2	39	BCWTC200V29A4-N	\$624
3	2.5	28	BCWTC250V29B4-N	\$643	BCWTC250V29B4-F	\$871	3	38	BCWTC300V29B4-N	\$650
5	3	26	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881	3	31	BCWTC300V29B4-N	\$650
7.5	3	21	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881	5	28	BCWTC500V29B4-N	\$709
10	5	21	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934	5	27	BCWTC500V29B4-N	\$709
15	5	20	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934	7.5	24	BCWTC750V29C4-N	\$810
20	7.5	19	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236	7.5	23	BCWTC750V29C4-N	\$810
25	7.5	19	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236	10	23	BCWTD100V29E4-N	\$967
30	10	19	BCWTD100V29E4-N	\$967	BCWTD100V29E4-F	\$1,378	12.5	22	BCWTD125V29E4-N	\$1,055
40	15	19	BCWTD150V29E4-N	\$1,121	BCWTD150V29E4-F	\$1,663	17.5	21	BCWTD175V29E4-N	\$1,342
50	20	19	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,735	20	21	BCWTD200V29E4-N	\$1,374
60	20	17	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,735	25	20	BCWTD250V29E4-N	\$1,475
75	25	15	BCWTD250V29E4-N	\$1,475	BCWTD250V29E4-F	\$1,848	27.5	17	BCWTD275V29E4-N	\$1,561
100	30	12	BCWTD300V29E4-N	\$1,576	BCWTD300V29E4-F	\$2,384	35	16	BCWTD350V29F4-N	\$1,791
125	35	12	BCWTD350V29F4-N	\$1,791	BCWTD350V29F4-F	\$2,651	40	14	BCWTD400V29F4-N	\$1,892
150	40	12	BCWTD400V29F4-N	\$1,892	BCWTD400V29F4-F	\$2,760	50	14	③	③
200	50	10	③		③		60	13	③	③
250	60	10	③		③		75	13	③	③
300	75	12	③		③		100	14	③	③
350	90	12	③		③		120	13	③	③
400	100	12	③		③		130	13	③	③
450	120	10	③		③		140	12	③	③
500	150	12	③		③		160	12	③	③

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z11".
② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.
③ Higher KVARs can be obtained by paralleling two or more units. I.e.: to obtain 100KVAR, two 50KVAR units can be used.
④ For 208Vac 60Hz applications, derate the 240Vac capacitors. The KVAR at 208Vac will be 0.75 times the KVAR at 240Vac.
⑤ For other voltages, please contact WEG.



Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

240Vac 60Hz

SYNCHRONOUS SPEED OF MOTOR

HP	720 RPM						600 RPM						
	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price	HP	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price
1	1.5	42	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$847	1	2	42	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$847
1.5	2	42	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$847	1.5	2	42	BCWTC150V29A4-N	\$617	BCWTC150V29A4-F	\$847
2	2	42	BCWTC200V29A4-N	\$624	BCWTC200V29A4-F	\$854	2	2.5	42	BCWTC200V29A4-N	\$624	BCWTC200V29A4-F	\$854
3	3	40	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881	3	3	40	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881
5	3	40	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881	5	5	40	BCWTC300V29B4-N	\$650	BCWTC300V29B4-F	\$881
7.5	5	38	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934	7.5	5	45	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934
10	7.5	36	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934	10	7.5	38	BCWTC500V29B4-N	\$709	BCWTC500V29B4-F	\$934
15	7.5	32	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236	15	10	34	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236
20	12.5	25	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236	20	17.5	30	BCWTC750V29C4-N	\$810	BCWTC750V29C4-F	\$1,236
25	12.5	25	BCWTD100V29E4-N	\$967	BCWTD100V29E4-F	\$1,378	25	17.5	30	BCWTD100V29E4-N	\$967	BCWTD100V29E4-F	\$1,378
30	15	24	BCWTD125V29E4-N	\$1,055	BCWTD125V29E4-F	\$1,488	30	22.5	30	BCWTD125V29E4-N	\$1,055	BCWTD125V29E4-F	\$1,488
40	22.5	24	BCWTD175V29E4-N	\$1,342	BCWTD175V29E4-F	\$1,696	40	25	30	BCWTD175V29E4-N	\$1,342	BCWTD175V29E4-F	\$1,696
50	22.5	24	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,735	50	30	30	BCWTD200V29E4-N	\$1,374	BCWTD200V29E4-F	\$1,735
60	30	22	BCWTD250V29E4-N	\$1,475	BCWTD250V29E4-F	\$1,848	60	35	28	BCWTD250V29E4-N	\$1,475	BCWTD250V29E4-F	\$1,848
75	30	14	BCWTD275V29E4-N	\$1,561	BCWTD275V29E4-F	\$1,924	75	40	19	BCWTD275V29E4-N	\$1,561	BCWTD275V29E4-F	\$1,924
100	40	15	BCWTD350V29F4-N	\$1,791	BCWTD350V29F4-F	\$2,651	100	45	17	BCWTD350V29F4-N	\$1,791	BCWTD350V29F4-F	\$2,651
125	45	15	BCWTD400V29F4-N	\$1,892	BCWTD400V29F4-F	\$2,760	125	50	17	BCWTD400V29F4-N	\$1,892	BCWTD400V29F4-F	\$2,760
150	50	14	③		③		150	60	17	③		③	
200	60	13	③		③		200	90	17	③		③	
250	85	13	③		③		250	100	17	③		③	
300	100	13	③		③		300	120	17	③		③	
350	120	13	③		③		350	135	15	③		③	
400	140	13	③		③		400	150	15	③		③	
450	160	14	③		③		450	160	15	③		③	
500	180	13	③		③		500	180	15	③		③	

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z11".

② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.

③ Higher KVARs can be obtained by paralleling two or more units. I.e.: to obtain 100KVAR, two 50KVAR units can be used.

④ For 208Vac 60Hz applications, derate the 240Vac capacitors. The KVAR at 208Vac will be 0.75 times the KVAR at 240Vac

⑤ For other voltages, please contact WEG.

Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

480Vac 60Hz

SYNCHRONOUS SPEED OF MOTOR

HP	3600 RPM				1800 RPM			
	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor NON-FUSED (NEMA 4)	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price
1	0.5	15	BCWTC050V53A4-N	\$601	BCWTC075V53A4-N	24	BCWTC075V53A4-F	\$832
1.5	0.75	15	BCWTC075V53A4-N	\$603	BCWTC075V53A4-N	24	BCWTC075V53A4-F	\$834
2	1	15	BCWTC100V53A4-N	\$606	BCWTC100V53A4-N	24	BCWTC100V53A4-F	\$836
3	1.5	14	BCWTC150V53A4-N	\$612	BCWTC150V53A4-N	23	BCWTC150V53A4-F	\$841
5	2	14	BCWTC200V53A4-N	\$617	BCWTC250V53A4-N	22	BCWTC250V53A4-F	\$846
7.5	2.5	14	BCWTC250V53A4-N	\$622	BCWTC300V53A4-N	20	BCWTC300V53A4-F	\$851
10	3	14	BCWTC300V53A4-N	\$627	BCWTC300V53A4-N	18	BCWTC300V53A4-F	\$856
15	5	12	BCWTC500V53B4-N	\$658	BCWTC500V53B4-N	18	BCWTC500V53B4-F	\$889
20	5	12	BCWTC500V53B4-N	\$658	BCWTC500V53B4-N	17	BCWTC500V53B4-F	\$889
25	7.5	12	BCWTC750V53B4-N	\$688	BCWTC750V53B4-N	17	BCWTC750V53B4-F	\$915
30	7.5	11	BCWTC750V53B4-N	\$688	BCWTC750V53B4-N	16	BCWTC750V53B4-F	\$915
40	10	12	BCWTD100V53B4-N	\$706	BCWTD125V53C4-N	15	BCWTD125V53C4-F	\$932
50	12.5	12	BCWTD125V53C4-N	\$795	BCWTD175V53E4-N	15	BCWTD175V53E4-F	\$1,208
60	15	12	BCWTD150V53C4-N	\$812	BCWTD200V53E4-N	14	BCWTD200V53E4-F	\$1,238
75	20	12	BCWTD200V53E4-N	\$1,048	BCWTD225V53E4-N	14	BCWTD225V53E4-F	\$1,455
100	22.5	11	BCWTD225V53E4-N	\$1,065	BCWTD300V53D4-N	14	BCWTD300V53D4-F	\$1,497
125	25	10	BCWTD250V53E4-N	\$1,082	BCWTD350V53E4-N	12	BCWTD350V53E4-F	\$1,513
150	30	10	BCWTD300V53D4-N	\$1,297	BCWTD400V53E4-N	12	BCWTD400V53E4-F	\$1,656
200	35	10	BCWTD350V53E4-N	\$1,498	BCWTD500V53E4-N	11	BCWTD500V53E4-F	\$1,836
250	40	11	BCWTD400V53E4-N	\$1,531	BCWTD600V53F4-N	10	BCWTD600V53F4-F	\$1,877
300	45	11	BCWTD450V53E4-N	\$1,565	BCWTD600V53F4-N	10	BCWTD600V53F4-F	\$1,918
350	50	12	BCWTD500V53E4-N	\$1,598	BCWTD750V53F4-N	8	BCWTD750V53F4-F	\$1,959
400	75	10	BCWTD750V53F4-N	\$2,026	BCWTD750V53F4-N	8	BCWTD750V53F4-F	\$3,237
450	75	8	BCWTD750V53F4-N	\$2,026	BCWTD750V53F4-N	8	BCWTD750V53F4-F	\$3,237
500	100	8	③		③	9	③	

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z11".

② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.

③ Higher KVARs can be obtained by paralleling two or more units. I.e.: to obtain 100KVAR, two 50KVAR units can be used.

④ For other voltages, please contact WEG.

Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

480Vac 60Hz



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SYNCHRONOUS SPEED OF MOTOR

1200 RPM					900 RPM				
HP	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price
1	1	29	BCWTC100V53A4-N	\$606	BCWTC100V53A4-F	\$606	29	BCWTC100V53A4-N	\$612
1.5	1	29	BCWTC100V53A4-N	\$606	BCWTC100V53A4-F	\$606	29	BCWTC100V53A4-N	\$612
2	1.5	29	BCWTC150V53A4-N	\$612	BCWTC150V53A4-F	\$612	29	BCWTC150V53A4-N	\$617
3	2.5	28	BCWTC250V53A4-N	\$622	BCWTC250V53A4-F	\$622	28	BCWTC250V53A4-N	\$627
5	3	26	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$627	26	BCWTC300V53A4-N	\$627
7.5	3	21	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$627	21	BCWTC300V53A4-N	\$658
10	5	21	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$658	21	BCWTC500V53B4-N	\$658
15	5	20	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$658	20	BCWTC500V53B4-N	\$688
20	7.5	19	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$688	19	BCWTC750V53B4-N	\$688
25	7.5	19	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$688	19	BCWTC750V53B4-N	\$706
30	10	19	BCWTD100V53B4-N	\$706	BCWTD100V53B4-F	\$706	19	BCWTD100V53B4-N	\$795
40	15	19	BCWTD150V53C4-N	\$812	BCWTD150V53C4-F	\$812	19	BCWTD150V53C4-N	\$1,030
50	20	19	BCWTD200V53E4-N	\$1,048	BCWTD200V53E4-F	\$1,048	19	BCWTD200V53E4-N	\$1,065
60	22.5	17	BCWTD225V53E4-N	\$1,065	BCWTD225V53E4-F	\$1,065	17	BCWTD225V53E4-N	\$1,082
75	25	15	BCWTD250V53E4-N	\$1,082	BCWTD250V53E4-F	\$1,082	15	BCWTD250V53E4-N	\$1,280
100	30	12	BCWTD300V53D4-N	\$1,297	BCWTD300V53D4-F	\$1,297	12	BCWTD300V53D4-N	\$1,498
125	35	12	BCWTD350V53E4-N	\$1,498	BCWTD350V53E4-F	\$1,498	12	BCWTD350V53E4-N	\$1,531
150	40	12	BCWTD400V53E4-N	\$1,531	BCWTD400V53E4-F	\$1,531	12	BCWTD400V53E4-N	\$1,598
200	50	10	BCWTD500V53E4-N	\$1,598	BCWTD500V53E4-F	\$1,598	10	BCWTD500V53E4-N	\$1,926
250	60	10	BCWTD600V53F4-N	\$1,926	BCWTD600V53F4-F	\$1,926	10	BCWTD600V53F4-N	\$2,026
300	75	12	BCWTD750V53F4-N	\$2,026	BCWTD750V53F4-F	\$2,026	12	BCWTD750V53F4-N	\$3,110
350	90	12	③		③		12	③	
400	100	12	③		③		12	③	
450	120	10	③		③		10	③	
500	150	12	③		③		12	③	

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z11".

② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.

③ Higher KVARs can be obtained by paralleling two or more units. I.e.: to obtain 100KVAR, two 50KVAR units can be used.

④ For other voltages, please contact WEG.

Suggested Maximum Capacitor Ratings for T-Frame NEMA Motors

480Vac 60Hz

SYNCHRONOUS SPEED OF MOTOR

HP	720 RPM					600 RPM						
	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price	Required KVAR	Est. Amp Red. %	Enclosed Capacitor NON-FUSED (NEMA 4)	List Price	Enclosed Capacitor FUSED (NEMA 4)	List Price
1	1.5	42	BCWTC150V53A4-N	\$612	BCWTC150V53A4-F	\$841	2	42	BCWTC150V53A4-N	\$612	BCWTC150V53A4-F	\$841
1.5	2	42	BCWTC150V53A4-N	\$612	BCWTC150V53A4-F	\$841	2	42	BCWTC150V53A4-N	\$612	BCWTC150V53A4-F	\$841
2	2	42	BCWTC200V53A4-N	\$617	BCWTC200V53A4-F	\$846	2.5	42	BCWTC200V53A4-N	\$617	BCWTC200V53A4-F	\$846
3	3	40	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$856	3	40	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$856
5	3	40	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$856	5	40	BCWTC300V53A4-N	\$627	BCWTC300V53A4-F	\$856
7.5	5	38	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$889	5	45	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$889
10	7.5	36	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$889	7.5	38	BCWTC500V53B4-N	\$658	BCWTC500V53B4-F	\$889
15	7.5	32	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$915	10	34	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$915
20	12.5	25	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$915	17.5	30	BCWTC750V53B4-N	\$688	BCWTC750V53B4-F	\$915
25	12.5	25	BCWTD100V53B4-N	\$706	BCWTD100V53B4-F	\$932	17.5	30	BCWTD100V53B4-N	\$706	BCWTD100V53B4-F	\$932
30	15	24	BCWTD125V53C4-N	\$795	BCWTD125V53C4-F	\$1,208	22.5	30	BCWTD125V53C4-N	\$795	BCWTD125V53C4-F	\$1,208
40	22.5	24	BCWTD175V53E4-N	\$1,030	BCWTD175V53E4-F	\$1,435	25	30	BCWTD175V53E4-N	\$1,030	BCWTD175V53E4-F	\$1,435
50	22.5	24	BCWTD225V53E4-N	\$1,065	BCWTD225V53E4-F	\$1,497	30	30	BCWTD225V53E4-N	\$1,065	BCWTD225V53E4-F	\$1,497
60	30	22	BCWTD250V53E4-N	\$1,082	BCWTD250V53E4-F	\$1,513	35	28	BCWTD250V53E4-N	\$1,082	BCWTD250V53E4-F	\$1,513
75	30	14	BCWTD275V53D4-N	\$1,280	BCWTD275V53D4-F	\$1,587	40	19	BCWTD275V53D4-N	\$1,280	BCWTD275V53D4-F	\$1,587
100	40	15	BCWTD350V53E4-N	\$1,498	BCWTD350V53E4-F	\$1,836	45	17	BCWTD350V53E4-N	\$1,498	BCWTD350V53E4-F	\$1,836
125	45	15	BCWTD400V53E4-N	\$1,531	BCWTD400V53E4-F	\$1,877	50	17	BCWTD400V53E4-N	\$1,531	BCWTD400V53E4-F	\$1,877
150	50	14	BCWTD500V53E4-N	\$1,598	BCWTD500V53E4-F	\$1,959	60	17	BCWTD500V53E4-N	\$1,598	BCWTD500V53E4-F	\$1,959
200	60	13	BCWTD600V53F4-N	\$1,926	BCWTD600V53F4-F	\$3,110	90	17	③		③	
250	85	13	③		③		100	17	③		③	
300	100	13	③		③		120	17	③		③	
350	120	13	③		③		135	15	③		③	
400	140	13	③		③		150	15	③		③	
450	160	14	③		③		160	15	③		③	
500	180	13	③		③		180	15	③		③	

① Chart applies to 3-phase, 60Hz motors when switched with capacitors as a local correction (single unit). Multiplier for all units "Z11".
② Power factor correction calculated to approximately 95%. If specific KVAR is not available, use next lower KVAR rating.
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④ For other voltages, please contact WEG.

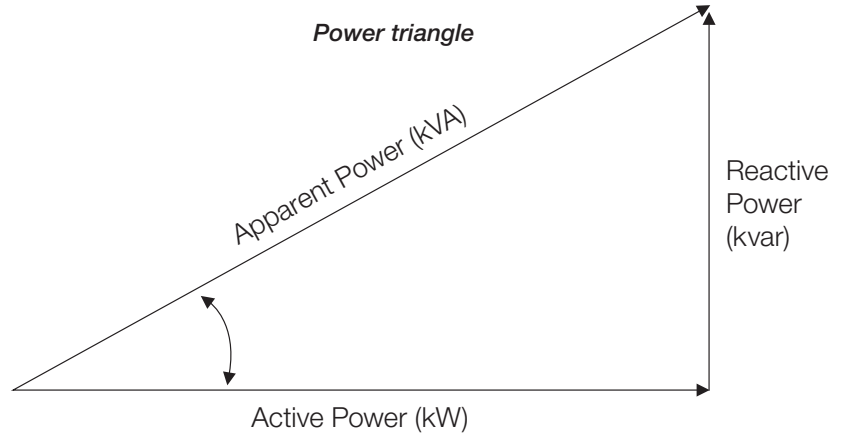
Power Factor

Basic Concepts

In every industrial, commercial or residential installation, equipment transforms some kind of energy into work and the determined quantity of energy granted by an energy source per time unit is called Power.

In electric systems, the energy provided by a particular source can be divided into:

- Active Power: the power that is transformed into work, generating heat, light, movement, etc. It is measured in kW.
- Reactive Power: the power used only to create and maintain the magnetic field in inductive loads. It is measured in kVAr.
- Apparent Power: the vector sum of the Active and Reactive Power, representing the total power delivered by the power source (electric generator, utility company, etc) or the total power consumed by a load/system. It is measured in kVA.



A rectangle triangle is frequently used to represent the relation between Active, Reactive and Apparent Power.

The relation between Active Power (the one that does work) and Apparent Power (the total power delivered by the power source) can be used to indicate the usage “efficiency” of electric energy, and is defined as Power Factor.

A high Power Factor indicates a high efficiency or a better usage of energy, while a low Power Factor indicates low efficiency, or a worse energy use.

$$fp = \frac{\text{Active Power (kW)}}{\text{Apparent Power (kVA)}}$$

Causes and Consequences of a Low Power Factor

Losses in Installation

The electric losses occur in the form of heat and are proportional to the square of the total current ($I^2 \times R$). As this current grows with the increase of reactive power, a relation between the loss increase and low power factor is established causing the heating up on cables and equipment.

Voltage Drops

The increase of current due to the excess of reactive power results in large voltage drops, and may even cause the interruption of the energy supply and overloads in some equipment. Above all, this risk is increased during the periods where the power line is highly required. The voltage drops can also cause the reduction in luminous intensity of lamps and the increase of current in electric motors.

Underuse of Installed Capacity

With a low power factor, electrical installations are not utilizing their full capacity. Investments for new expansion are mainly related to transformers and conductors. The “space” occupied by Reactive Energy could be used for New loads. The transformer must be able to handle the total power of the installed equipment, but due to the presence of reactive power, its capacity must be calculated taking the apparent power in to consideration. The table below shows the total power that a transformer must have to attend a load of 800 kW for increasing power factors.

Active Power - kW	Power Factor	Transformer Power - kVA
800	0.50	1.600
	0.80	1.000
	1.00	800



Power Factor

The power factor correction can increase the capacity for installing new equipment without the need of investing in new transformers or replacing the cables. Besides this, it may also increase the voltage levels. The example below shows the increase of capacity of the installation.

Example: Correction of the power factor to 0.92 of a load of 930 kW, 480 Vac and PF = 0.65:

- Without Power Factor Correction:
 Initial apparent power = $930 \div 0.65 = 1431 \text{ kVA}$
 Initial current = $930000 \div (\sqrt{3} \times 480 \times 0.65) = 1721 \text{ A}$
- With Power Factor Correction:
 Final Apparent Power = $930 \div 0.92 = 1011 \text{ kVA}$
 Final current = $930 \div (\sqrt{3} \times 480 \times 0.92) = 1216 \text{ A}$



RESULT

**420 kVA now
available to add
new equipment
at no additional
cost**

It is evident, then that, in this case, after the correction of the power factor, the installation may have load increases up to 41% without additional high investments, such as new transformers and/or cables.

Main Consequences of Low Power Factor

- Increase of energy bill due to extra demand charge and/or kVAr penalties
- Limitation of capacity of power transformers
- Voltage drops and fluctuations on distribution circuits
- Overload on protective and control devices, limiting useful life
- Electrical losses increase on distribution line due to Joule effect
- Need of increasing conductors cross section
- Need of increasing capacity of protective and control devices

Main Causes of Low Power Factor

- Induction motors running without load or not fully loaded
- Oversized motors
- Transformers without load or with low loads
- Low power factor Reactors on lighting system
- Induction or Arc furnaces
- Thermal treatment machines
- Welding machines
- Voltage level above rated, resulting in higher reactive power consumption



Power Factor

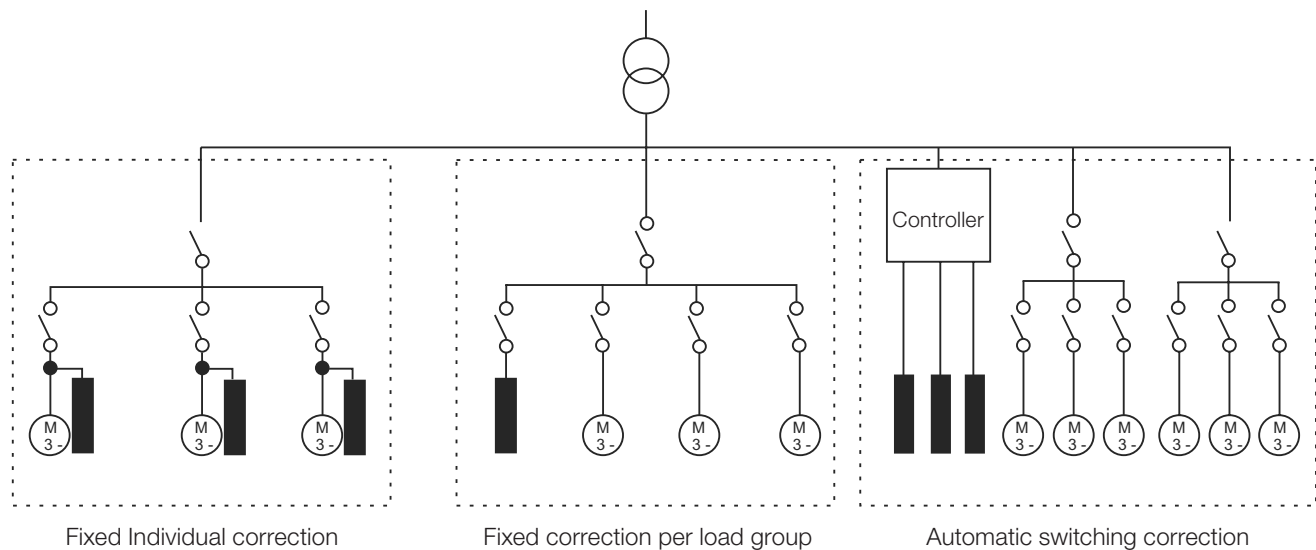
Power Factor Correction in Low Voltages (600Vac and below)

Types of Power Factor Correction

Correction can be made by installing the capacitors in four different ways resulting in energy conservation and cost/benefit relation (see Types of Installation Diagram).

- a) Correction on the low voltage energy input: allows a significant correction normally with automatic capacitor banks. This type of correction may be used on electrical installations with a high number of loads with different power and utilization regimes with little uniformity. The main disadvantage is not to have a significant relief of the feeders of each equipment.
- b) Correction per load groups: the capacitors are installed to correct a specific area or a set of small machines ($< 7.5 \text{ kW} / 10 \text{ HP}$). They are installed along with the distribution board that supplies this equipment. The disadvantage is that it does not reduce the current on the feeding circuits of each equipment.
- c) Local correction: is obtained by installing the capacitors next to the equipment where the increase of the power factor is required. This kind of correction represents, from the technical point of view, the best solution with the following advantages:
 - Reduces energy losses in the installation;
 - Minimizes the load on feeding circuits;
 - A single system can be used for controlling and switching both the load and capacitors, saving one set of equipment;
 - Generates reactive power only where it is necessary;
- d) Mixed correction: from the “Energy Conservation” point of view, considering the technical, practical and financial aspects, it is the best solution. The following criteria should be used for mixed correction:
 1. A fixed capacitor is installed next to secondary of transformer;
 2. Motors of 7.5 kW (10 HP) or higher are locally corrected (be careful with high inertia motors because use of dedicated contactors for switching of capacitors should always be used when rated current of these motors is higher than 90% of their excitation current)
 3. Motors with less than 7.5 kW (10 HP) are corrected by groups
 4. Lighting lines with discharge lamps, with low power factor reactors, are corrected on line input
 5. Automatic capacitor bank is installed on system entrance for final equalization.

The diagram below shows all of the installation types explained above:



Sizing Power Factor Capacitors

There are 2 methods we will use examples to show how to size power factor correction capacitors. The simplest method uses the selected chart below. The selection chart shows the maximum KVAR based on the motor hp and rpm. The KVAR recommended is designed to improve the power factor to approximately .95.

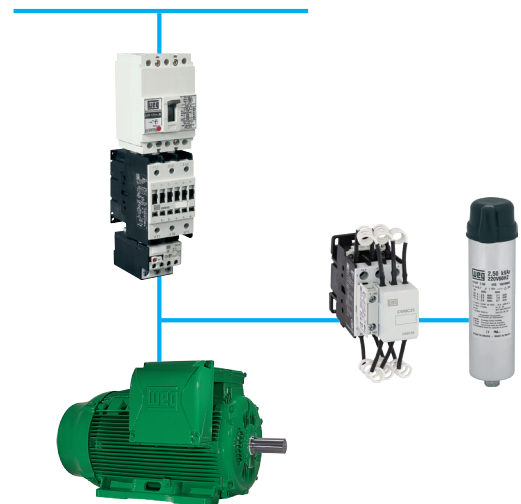
HP	3600 RPM		1800 RPM		1200 RPM		900 RPM		720 RPM		600 RPM	
	Required KVAR	Est. Amp Red. %	Required KVAR	Est. Amp Red. %	Required KVAR	Est. Amp Red. %	Required KVAR	Est. Amp Red. %	Required KVAR	Est. Amp Red. %	Required KVAR	Est. Amp Red. %
1	0.5	15	0.75	24	1	29	1.5	39	1.5	42	2	42
1.5	0.75	15	0.75	24	1	29	1.5	39	2	42	2	42
2	1.0	15	1	24	1.5	29	2	39	2	42	2.5	42
3	1.5	14	1.5	23	2.5	28	3	38	3	40	3	40
5	2	14	2.5	22	3	26	3	31	3	40	5	40
7.5	2.5	14	3	20	3	21	5	28	5	38	5	45
10	3	14	3	18	5	21	5	27	7.5	36	7.5	38
15	5	12	5	18	5	20	7.5	24	7.5	32	10	34
20	5	12	5	17	7.5	19	7.5	23	12.5	25	17.5	30
25	7.5	12	7.5	17	7.5	19	10	23	12.5	25	17.5	30
30	7.5	11	7.5	16	10	19	12.5	22	15	24	22.5	30
40	10	12	12.5	15	15	19	17.5	21	22.5	24	25	30
50	12.5	12	17.5	15	20	19	22.5	21	22.5	24	30	30
60	15	12	20	14	22.5	17	25	20	30	22	35	28
75	20	12	22.5	14	25	15	27.5	17	30	14	40	19
100	22.5	11	30	14	30	12	35	16	40	15	45	17
125	25	10	35	12	35	12	40	14	45	15	50	17
150	30	10	40	12	40	12	50	14	50	14	60	17
200	35	10	50	11	50	10	60	13	60	13	90	17
250	40	11	60	10	60	10	75	13	85	13	100	17
300	45	11	60	10	75	12	100	14	100	13	120	17
350	50	12	75	8	90	12	120	13	120	13	135	15
400	75	10	75	8	100	12	130	13	140	13	150	15
450	75	8	90	8	120	10	140	12	160	14	160	15
500	100	8	100	9	150	12	160	12	180	13	180	15

Example:

For a 75 hp motor running at 3600 rpm, the maximum value would be 20 KVAR.

Important! Do not oversize the capacitors, when sizing at the motor load to avoid over voltage on the circuit.

Note: the KVAR needed to correct the Power Factor is the same regardless of the motor voltage. The actual capacitor selection is dependant on voltage.



Sizing Power Factor Capacitors

The next method uses a power factor multiplier chart and formula for calculating the recommended KVAR. This method is often used when sizing power factor capacitors for a system wide approach.

Current power factor	Desired Power factor (F)														
	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99
0.50	1.112	1.139	1.165	1.192	1.220	1.248	1.276	1.306	1.337	1.369	1.403	1.440	1.481	1.529	1.589
0.52	1.023	1.050	1.076	1.103	1.131	1.159	1.187	1.217	1.248	1.280	1.314	1.351	1.392	1.440	1.500
0.54	0.939	0.966	0.992	1.019	1.047	1.075	1.103	1.133	1.164	1.196	1.230	1.267	1.308	1.356	1.416
0.56	0.860	0.887	0.913	0.940	0.968	0.996	1.024	1.054	1.085	1.117	1.151	1.188	1.229	1.277	1.337
0.58	0.785	0.812	0.838	0.865	0.893	0.921	0.949	0.979	1.010	1.042	1.076	1.113	1.154	1.202	1.262
0.60	0.713	0.740	0.766	0.793	0.821	0.849	0.877	0.907	0.938	0.970	1.004	1.041	1.082	1.130	1.190
0.62	0.646	0.673	0.699	0.726	0.754	0.782	0.810	0.840	0.871	0.903	0.937	0.974	1.015	1.063	1.123
0.64	0.581	0.608	0.634	0.661	0.689	0.717	0.745	0.775	0.806	0.838	0.872	0.909	0.950	0.998	1.068
0.66	0.518	0.545	0.571	0.598	0.626	0.654	0.682	0.712	0.743	0.775	0.809	0.846	0.887	0.935	0.995
0.68	0.458	0.485	0.511	0.538	0.566	0.594	0.622	0.652	0.683	0.715	0.749	0.786	0.827	0.875	0.935
0.70	0.400	0.427	0.453	0.480	0.508	0.536	0.564	0.594	0.625	0.657	0.691	0.728	0.769	0.817	0.877
0.72	0.344	0.371	0.397	0.424	0.452	0.480	0.508	0.538	0.569	0.601	0.635	0.672	0.713	0.761	0.821
0.74	0.289	0.316	0.342	0.369	0.397	0.425	0.453	0.483	0.514	0.546	0.580	0.617	0.658	0.706	0.766
0.76	0.235	0.262	0.288	0.315	0.343	0.371	0.399	0.429	0.460	0.492	0.526	0.563	0.604	0.652	0.712
0.78	0.182	0.209	0.235	0.262	0.290	0.318	0.346	0.376	0.407	0.439	0.473	0.510	0.551	0.599	0.659
0.80	0.130	0.157	0.183	0.210	0.238	0.266	0.294	0.324	0.355	0.387	0.421	0.458	0.499	0.547	0.609
0.82	0.078	0.105	0.131	0.158	0.186	0.214	0.242	0.272	0.303	0.335	0.369	0.406	0.447	0.495	0.555
0.84	0.026	0.053	0.079	0.106	0.134	0.162	0.190	0.220	0.251	0.283	0.317	0.354	0.395	0.443	0.503
0.86			0.026	0.053	0.081	0.109	0.137	0.167	0.198	0.230	0.264	0.301	0.342	0.390	0.450
0.88					0.028	0.056	0.084	0.114	0.145	0.177	0.211	0.248	0.289	0.337	0.397
0.90							0.028	0.058	0.089	0.121	0.155	0.192	0.233	0.281	0.341
0.92									0.031	0.063	0.097	0.134	0.175	0.223	0.283
0.94											0.034	0.071	0.112	0.160	0.229
0.96													0.041	0.089	0.149
0.98															0.060

First determine the Total kW used in the system.

Second, look to the left hand column of the power factor correction multiplier chart (Table above), and select the original or existing power factor.

Third, select the desired power factor and choose the number (multiplier) that intersects the two columns.

Take the number (multiplier) and multiply it by the Total kW of the system.

Example:

Total kW _____ = 500 kW

Existing Power Factor _____ = .78

Required Power Factor _____ = .92

Multiplier from Table above _____ = 0.376

Formula:

$$0.376 \times 500 \text{ kW} = 188 \text{ kVAR}$$

For automatic switching or fixed units at the main, choose the closest value. If the exact kVAR is not listed, choose the next higher rating.

For the example listed above, it would be 200 kVAR.

If the existing power factor is not known, you can calculate it.

The power factor formula is: Active Power (kW) divided by the Apparent Power (kVA)

$$PF = kW / kVA$$

Notes: The examples shown on this catalogue are strictly for guidance. Whenever possible, the load types and load curves of the installation should be evaluated.

If more than 20% of the loads to be corrected are non-linear (VSDs, Soft-Starters, rectifiers, electronic reactors, etc.), Anti-Harmonics Inductors must be installed in series with the capacitors.

THD limit for capacitors: THDVoltage < 5% Vrms and THDCurrent < 15%.

The use of capacitors in electric systems with high harmonic distortions can internally damage the capacitive cells.



Load & Harmonic Survey

Customer Contact information

Company name : Contact name :
 Address : Email :
 City, State, Zip : Phone :

Electrical Network Data

Distribution Transformer : KVA (obtain from the transformer nameplate)	Existing KW: KW (obtain from the Utility Company)
Transformer Impedance : % (obtain from the transformer nameplate)	Existing Power Factor: % (obtain from the Utility bill)
Primary Volts : Volts (obtain from the transformer nameplate)	Desired Power Factor: % (recommend 95 %)
Secondary Volts: Volts (obtain from the transformer nameplate)	Existing Capacitors Installed: KVAR (enter Total KVAR insatlled at motors & at the main)
Primary 3 Phase Fault Current: (obtain from the Utility Company)	

Harmonic Generating Loads

Total AC VFD Load: Volts HP (sum of Total HP loads installed with VFDs)	Average Power Factor: %
Total DC VFD Load: Volts HP (sum of Total HP loads installed with DC drives)	Average Power Factor: %
Other Nonlinear Load: Volts KW (Examples include 3 phase UPS, Arc Furnace, etc...)	Average Power Factor: %

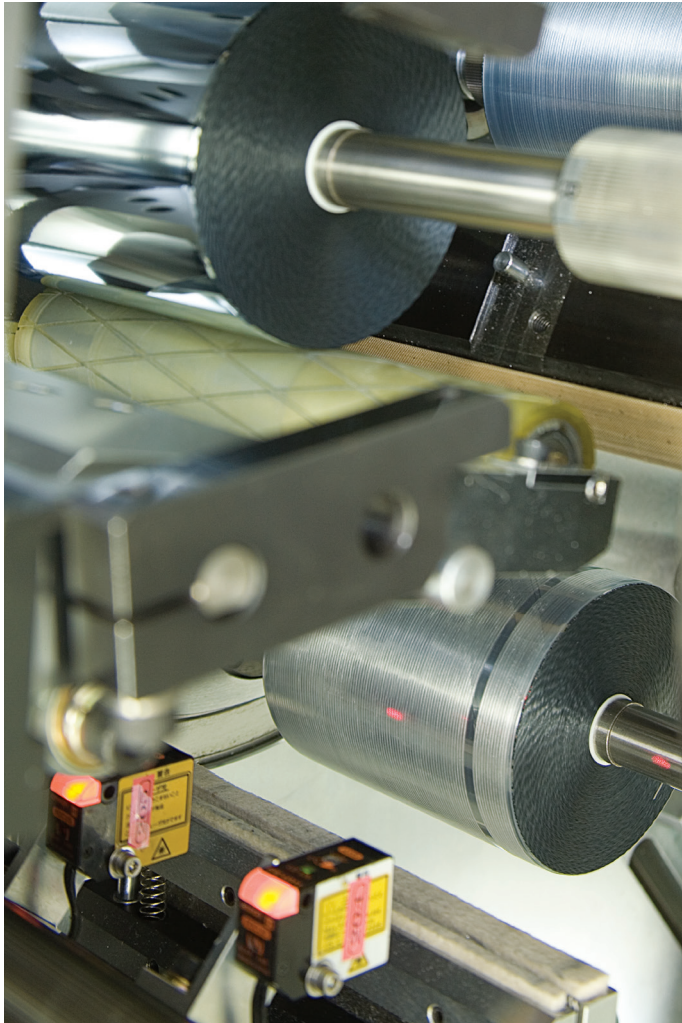
Comments

SEND COMPLETED FORM TO: bgenaw@weg.net

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www.weg.net/us - 1-800-ASK-4WEG

Capacitors: The Technology Within

During their useful life, capacitors may be subjected to certain utilization conditions, such as electrical and thermal overloads (voltage surges, short circuits, harmonics, excessive switching, high ambient temperature), which can damage them prematurely.



Due to the utilization conditions mentioned above, WEG capacitors are assembled with a high performance and low loss self-healing polypropylene dielectric film providing two important characteristics:

- Low Watt losses: dielectric losses smaller than 0.2 W/kVAR;
- Self-healing properties: in application conditions that cause a short circuit fault in the dielectric, the self-healing effect quickly reestablishes its electric properties.

As shown in the picture below, obtained through microscopic magnification, when there is a fault in the dielectric, the metallic layer under the polypropylene film vaporizes around the rupture point isolating the short circuit. This happens because at the moment of a short circuit, the metal layer around the fault is subjected to high temperatures. This is the self-healing effect.

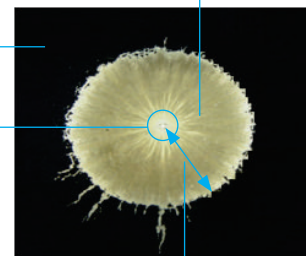
Polypropylene film after self-healing effect

Area where self-healing occurred (metal vaporization)

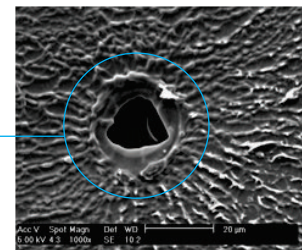
Self-healing polypropylene film conductive layer

Rupture of dielectric area

Isolated area, which increases distance between rupture area and conductive layer



Rupture of dielectric area (Magnified 1,000 times)



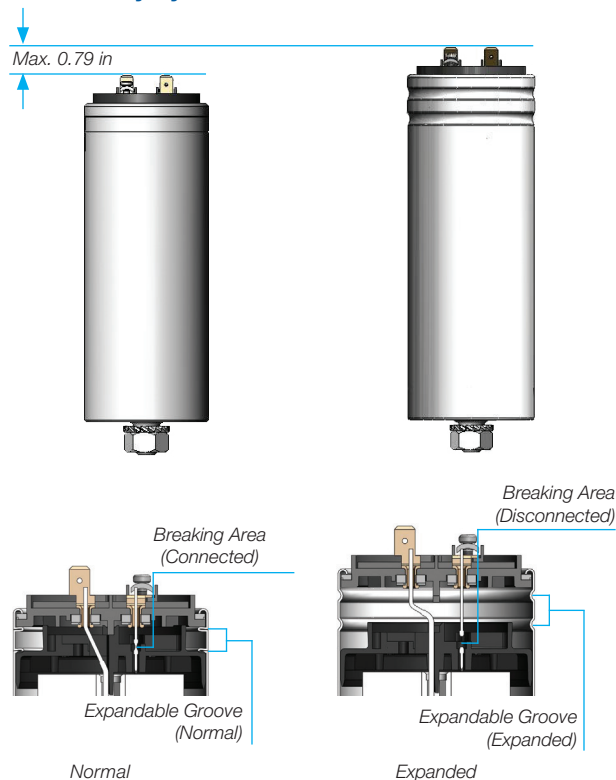
The reduction of the capacitance after the self-healing is so small that it can only be verified with precise measurements. The capacitor remains operating normally after each self-healing. Nonetheless, the cumulative effect of the self-healing will result in the increase of its internal pressure up to the point of the end of its life.

To avoid possible damage to the electric installation caused by over-pressure in the capacitor, WEG capacitors are specially designed with a safety system against internal over-pressures. This safety system has the function of interrupting the electric current on the capacitor when the internal pressure is too high. The actuation of this system normally occurs in the end of the life of the capacitor or in cases of continuous overload conditions.

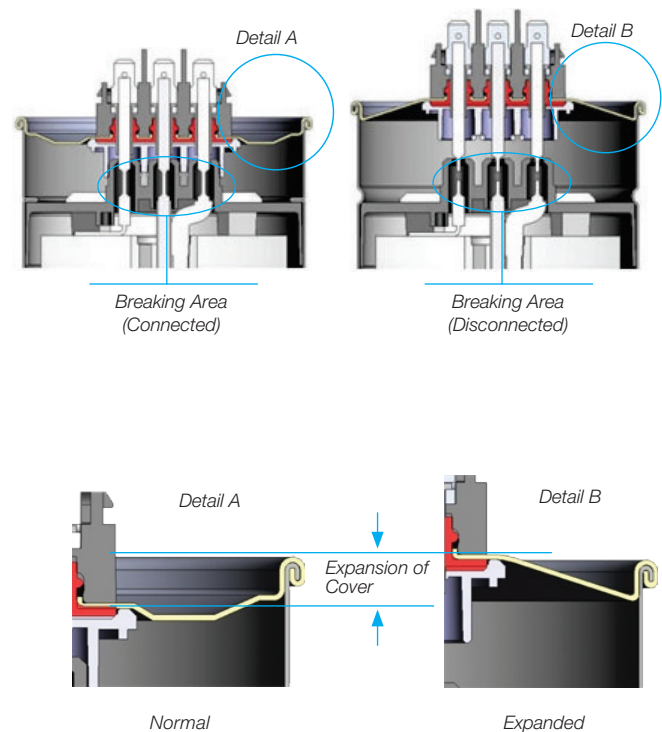
WEG Safety System

The internal over-pressure caused by the cumulative of self-healing effect of the polypropylene film will create a pressure on the internal walls of the capacitor. This pressure will act on the expandable grooves (capacitive units with plastic closing top) or on the metallic cover resulting in the breaking of the “mechanical fuse” and, consequently, disconnecting the capacitor from the power source. This mechanism provides total protection against over-pressure.

WEG Safety System in Plastic Covers



WEG Safety System in Metallic Covers



The aluminum enclosures used on WEG capacitors are made from a specific aluminum alloy assuring greater durability, better thermal dissipation and a perfect actuation of the safety system against over-pressure.

The capacitive element itself, is protected from the influence of the external environment (humidity and other impurities). It is also designed to ensure proper heat dissipation and a long useful life. WEG capacitors are PCB free.

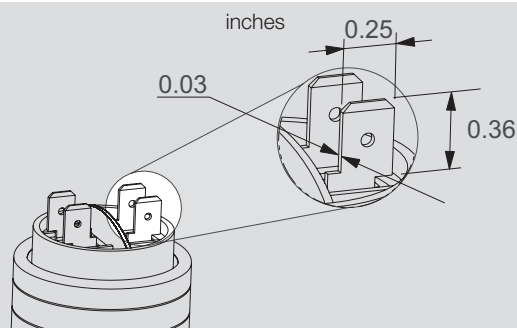


A Series Single Phase Capacitive Units - UCW

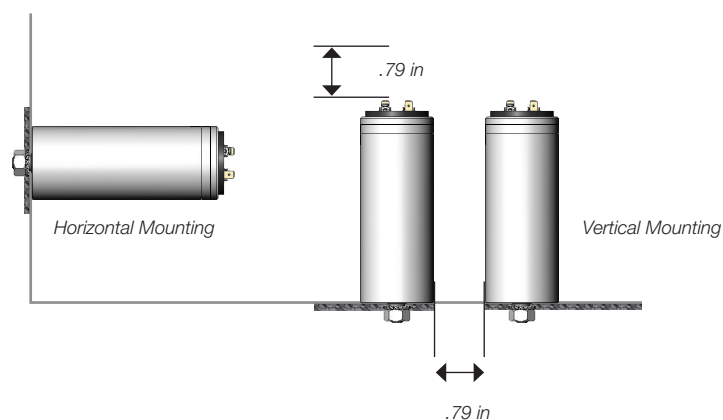
Power 0.62...0.83 (kVAR)
Rated Voltage 380...480 (V)

Electrical Connection

- Fast-on connection terminals for connection of power cables and discharge resistors.
- Double Fast-on allowing the connection of Power cables separately from discharge resistors.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.

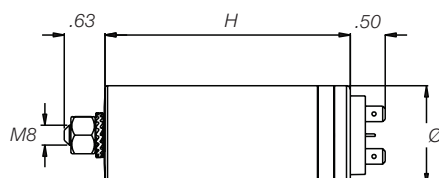


Mounting



M8 bolt mounting
(Nut and washer not
included with UCW)

Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Degree of Protection
1.6	3.3	IP00
1.6	4.1	IP00

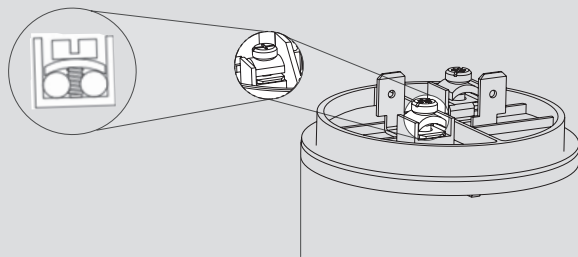
B Series Single Phase Capacitive Units - UCW

Power 0.62...3.3 (kVAr)
Rated Voltage 208...240 (V)

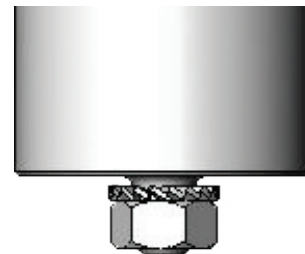
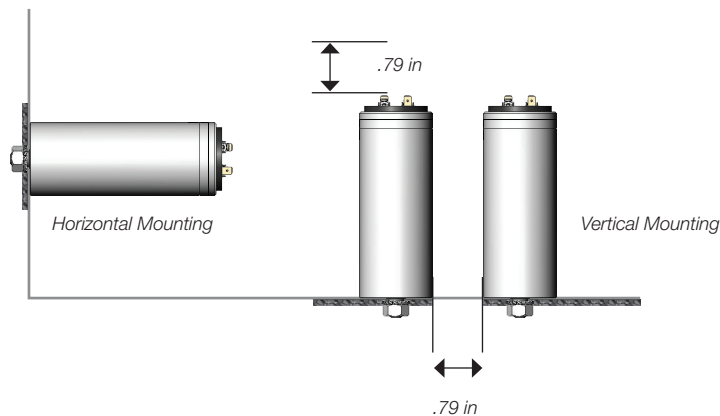
Power 0.62...6.67 (kVAr)
Rated Voltage 380...480 (V)

Electrical Connection

- M3 Flat/Philips screw terminals for connection of power cables.
- Fast-on connection terminals for discharge resistor connection.
- Allows connection of power cables separately from discharge resistors.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.

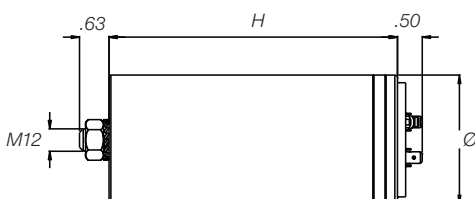


Mounting



M12 bolt mounting
(Nut and washer not
included in UCW)

Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Degree of Protection
2.1	2.7	IP00
2.1	3.3	IP00
2.1	4.1	IP00
2.1	5.6	IP00
2.4	3.3	IP00
2.4	4.1	IP00
2.4	5.6	IP00
2.4	6.1	IP00
2.8	6.1	IP00

C Series

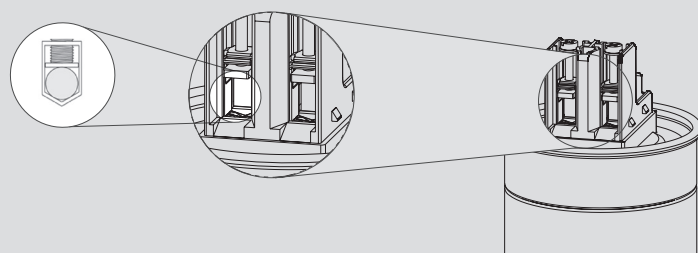
Single Phase Capacitive Units - UCW

Power 3.72...6.67 (kVAr)
Rated Voltage 208...240 (V)

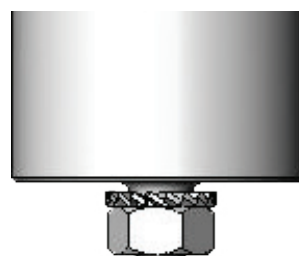
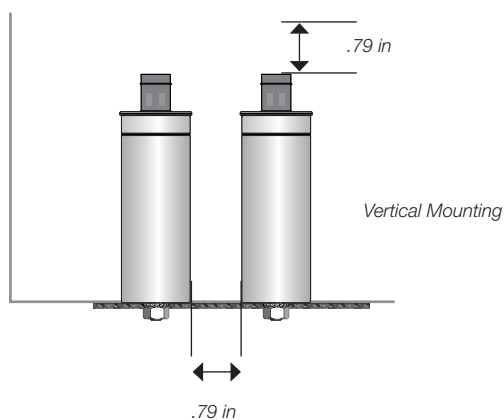
Power 5.56...10 (kVAr)
Rated Voltage 380...480 (V)

Electrical Connection

- “Box” type terminals for connection of power cables.
- Fast-on connection terminals for discharge resistor connection (discharge resistor included).
- Allows the connection of power cables separately from discharge resistors.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.

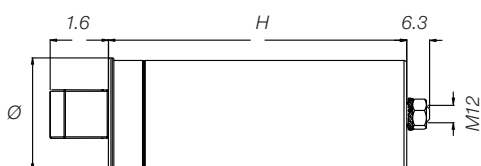


Mounting



M12 bolt mounting
(Nut and washer included)

Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Protection Degree
2.9	8.1	IP20



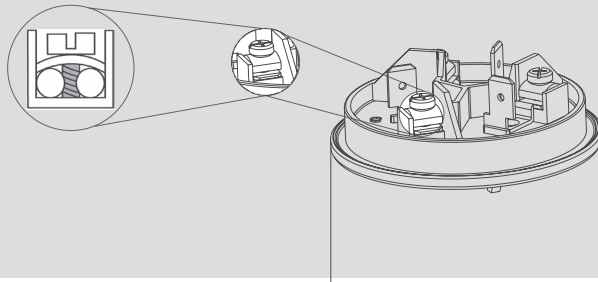
D Series Three Phase Capacitive Units - UCWT

Power 0.37...3 (kVar)
Rated Voltage 208...240 (V)

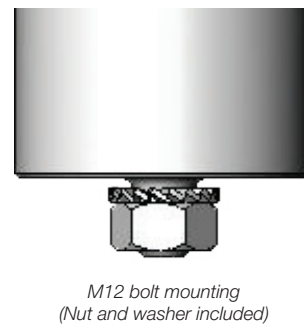
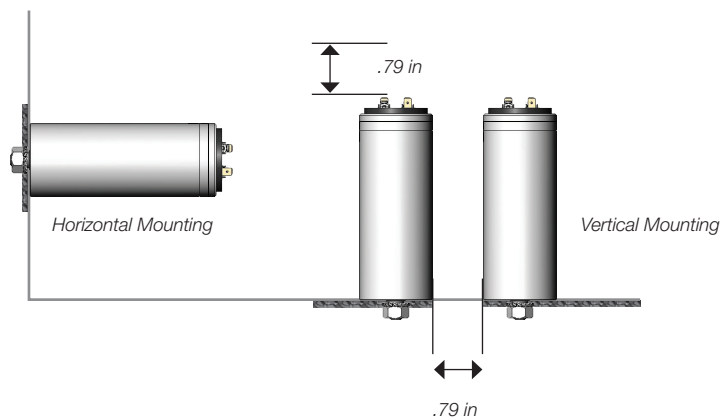
Power 0.37...5 (kVar)
Rated Voltage 380...480 (V)

Electrical Connections

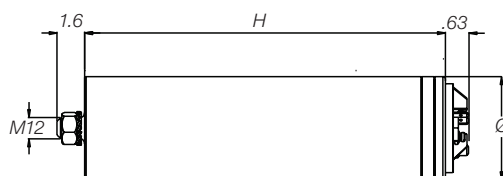
- Provided with NEMA 12 rating protection cover.
- M3 Flat/Philips screw terminals for connection of power cables.
- The D series capacitors are provided with internal resistors in the capacitive cell.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.



Mounting



Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Protection Degree
2.4	6.1	IP50
2.4	8.3	IP50



E Series Three Phase Capacitive Units - UCWT

Power 3.72...15 (kVAr)
Rated Voltage 208...240 (V)

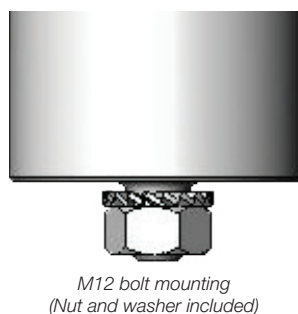
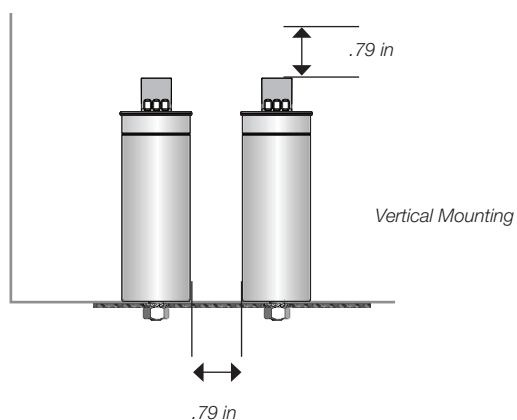
Power 5.56...25 (kVAr)
Rated Voltage 380...480 (V)

Electrical Connections

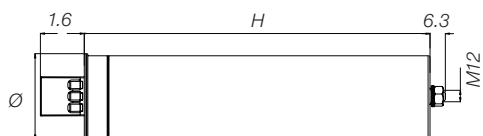
- “Box” type terminals for connection of power cables.
- Fast-on connection terminals for discharge resistor connection
- The E series capacitors are provided with external resistors in the capacitive cell.
- Allows connection of power cables separately from discharge resistors.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.



Mounting



Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Protection Degree
2.9	8.7	IP20
2.9	11.1	IP20
3.3	14	IP20

F Series

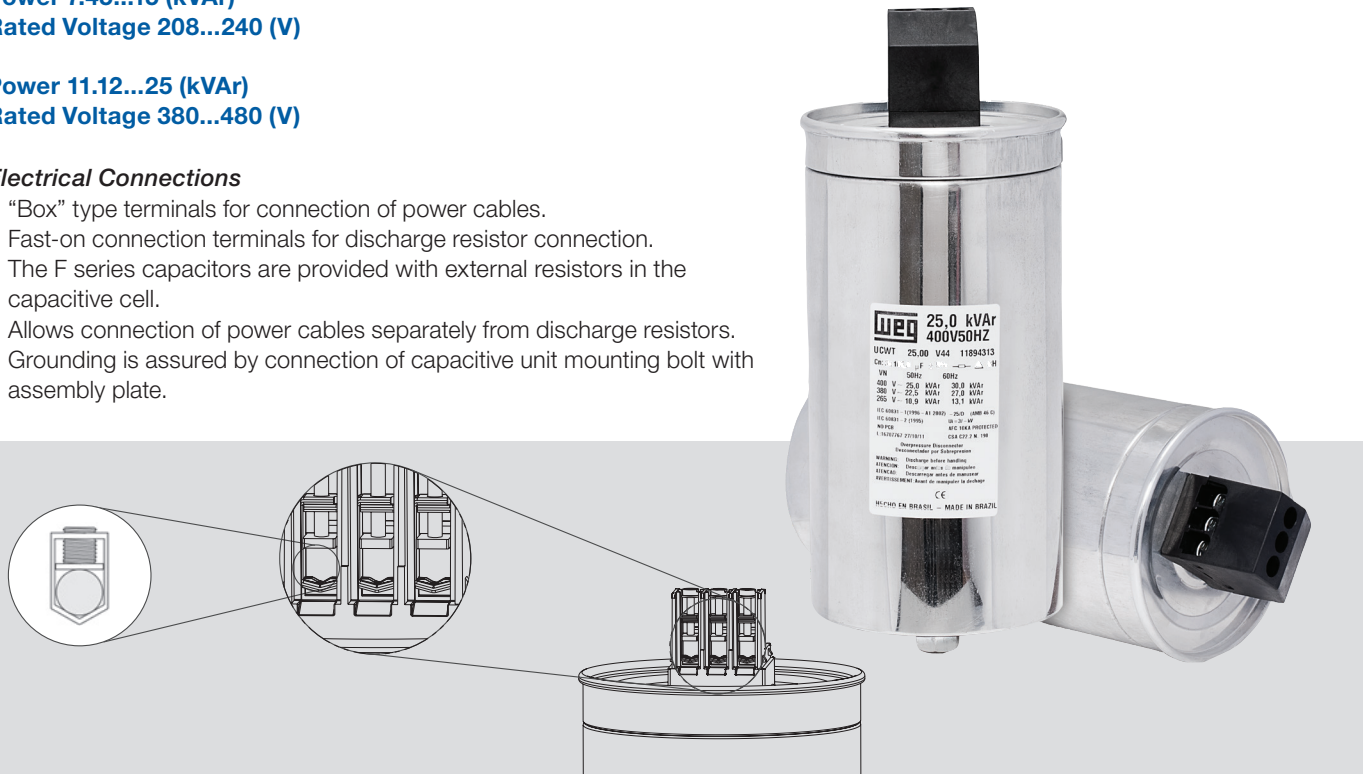
Three Phase Capacitive Units - UCWT

Power 7.45...15 (kVAr)
Rated Voltage 208...240 (V)

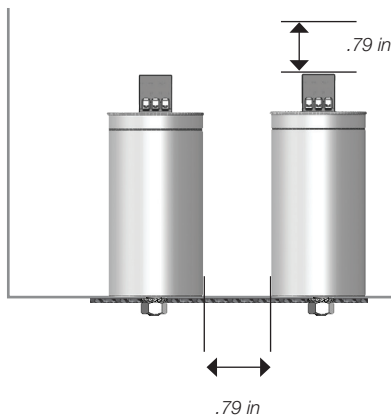
Power 11.12...25 (kVAr)
Rated Voltage 380...480 (V)

Electrical Connections

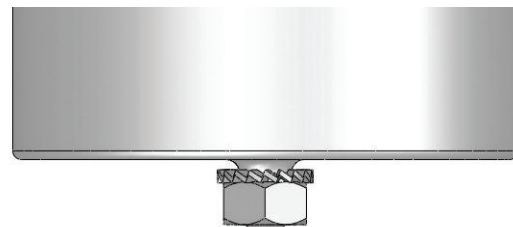
- “Box” type terminals for connection of power cables.
- Fast-on connection terminals for discharge resistor connection.
- The F series capacitors are provided with external resistors in the capacitive cell.
- Allows connection of power cables separately from discharge resistors.
- Grounding is assured by connection of capacitive unit mounting bolt with assembly plate.



Mounting



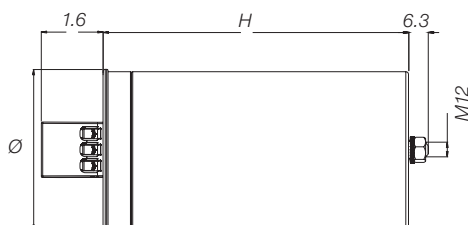
Vertical Mounting



M12 bolt mounting
(Nut and washer included)

Reduced height accommodates installation in MCC buckets.

Dimensional (in) and Protection Degree



Diameter (Ø)	Height (H)	Protection Degree
3.9	9.1	IP20
4.6	9.1	IP20



Three Phase Capacitive Module - MCW

Power 1.85...10 (kVAr)
Rated Voltage 208...240 (V)

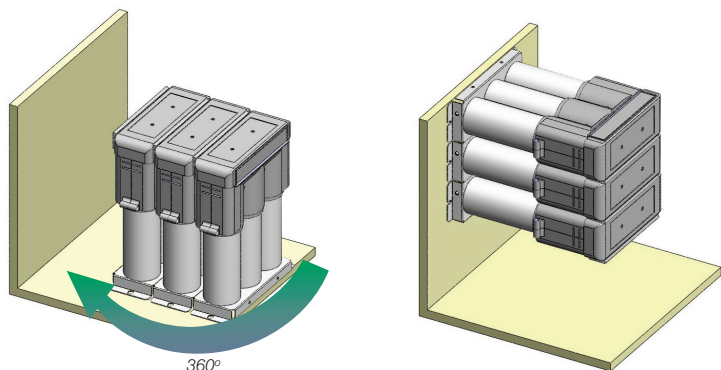
Power 1.85...15 (kVAr)
Rated Voltage 380...480 (V)

Module connection in Parallel

- Voltage up to 240 V:
 It is possible to connect up to 3 MCW modules in parallel using connection BI-MCW bars.
 For voltages from 208 V to 240 V, it is possible to compensate up to 30 kVAr.
- Voltage equal or higher than 380 V:
 It is possible to connect up to 4 MCW modules in parallel using BI-MCW bars.
 For voltages from 380 V to 480 V, it is possible to compensate up to 60 kVAr.



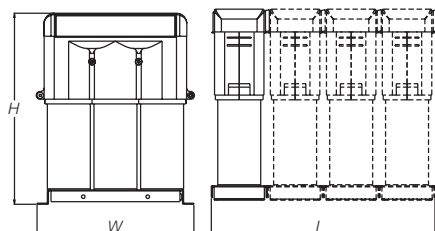
Mounting



Module Vertical Mounting

Module Horizontal Mounting

Dimensional (in) and Protection Degree



Number of Modules	Dimensional (L x W x H)	Protection Degree
1	8.6 x 3.1 x 10	IP40
2	8.6 x 6.1 x 10	IP40
3	8.6 x 9.2 x 10	IP40
4	8.6 x 12.3 x 10	IP40

Single Phase Capacitive Units - UCW

Power 0.62...6.67 (kVAr)
Rated Voltage 208...240 (V)

Power 0.62...10 (kVAr)
Rated Voltage 380...480 (V)



Single Phase Capacitors - UCW ⁽¹⁾											
Rated Voltage (V)	60 Hz		Capacitance (uF)	Series (2)	Dimensions Ø x H (in)	Discharge Resistor (3)		Weight (lb)	Catalog Number	List Price	Multiplier
	Reactive Power (kVAr)	Rated Current In (A)									
208	0.74	3.57	45.5	B	2.1 x 3.3	Not Included	270kΩ/3W	0.48	UCW0.83V25 J4	\$28.00	Z11
	0.74	3.57	45.5	B	2.4 x 4.1	Not Included	270kΩ/3W	0.70	UCW0.83V25 L6	\$28.00	Z11
	1.49	7.18	91.6	B	2.4 x 4.1	Not Included	150kΩ/3W	0.70	UCW1.67V25 L6	\$38.00	Z11
	2.23	10.74	137.1	B	2.4 x 6.1	Not Included	82kΩ/3W	1.01	UCW2.5V25 L10	\$43.00	Z11
	2.98	14.31	182.6	B	2.4 x 6.1	Not Included	56kΩ/3W	1.01	UCW3.33V25 L10	\$54.00	Z11
	4.47	21.49	274.2	C	3.0 x 8.1	Included	41kΩ/6W	2.46	UCW5V25 N14	\$120.00	Z11
	5.96	28.66	365.7	C	3.0 x 8.1	Included	28kΩ/6W	2.55	UCW6.67V25 N14	\$130.00	Z11
240	0.83	3.46	38.2	B	2.1 x 3.3	Not Included	270kΩ/3W	0.48	UCW0.83V29 J4	\$28.00	Z11
	1.67	6.96	76.9	B	2.4 x 4.1	Not Included	150kΩ/3W	0.70	UCW1.67V29 L6	\$38.00	Z11
	2.50	10.42	115.2	B	2.4 x 4.1	Not Included	82kΩ/3W	1.01	UCW2.5V29 L10	\$43.00	Z11
	3.33	13.88	153.4	C	3.0 x 8.1	Included	56kΩ/3W	2.46	UCW3.33V29 N14	\$54.00	Z11
	5.00	20.83	230.4	C	3.0 x 8.1	Included	60kΩ/6W	2.46	UCW5V29 N14	\$120.00	Z11
480	0.83	1.73	9.6	B	2.4 x 4.1	Not Included	1MΩ/3W	0.70	UCW0.83V53 L6	\$26.00	Z11
	1.67	3.48	19.2	B	2.4 x 4.1	Not Included	560kΩ/3W	0.71	UCW1.67V53 L6	\$30.00	Z11
	2.50	5.21	28.8	B	2.4 x 4.1	Not Included	390kΩ/3W	0.71	UCW2.5V53 L6	\$34.00	Z11
	3.33	6.94	38.4	B	2.4 x 5.6	Not Included	270kΩ/3W	0.93	UCW3.33V53 L8	\$39.00	Z11
	5.00	10.42	57.6	B	2.4 x 6.1	Not Included	180kΩ/3W	1.01	UCW5V53 L10	\$50.00	Z11
	6.67	13.90	76.8	B	2.8 x 6.1	Not Included	150kΩ/3W	1.54	UCW6.67V53 M10	\$61.00	Z11
	7.50	15.63	86.4	C	2.9 x 8.1	Included	135kΩ/6W	2.46	UCW7.5V53 N14	\$119.00	Z11
	8.33	17.35	96.0	C	2.9 x 8.1	Included	75kΩ/6W	2.46	UCW8.33V53 N14	\$124.00	Z11
	9.17	19.10	105.6	C	2.9 x 8.1	Included	75kΩ/6W	2.57	UCW9.17V53 N14	\$129.00	Z11
	10.00	20.83	115.2	C	2.9 x 8.1	Included	75kΩ/6W	2.55	UCW10V53 N14	\$134.000	Z11

(1) For other voltages, please contact WEG.

(2) Nuts and washers provided as standard for C series capacitors only. For A and B series – sold separately.

(3) Discharge resistors sized so the voltage on the terminals of the capacitor is 1/10 of the rated voltage in 30 s.





Three Phase Capacitive Units - UCWT

Power 0.37...15 (kVAr)
Rated Voltage 208...240 (V)

Power 0.37...25 (kVAr)
Rated Voltage 380...480 (V)



Three Phase Capacitors - UCWT ^{(1) and (2)}										
Rated Voltage (V)	60 Hz		Capacitance (uF)	Capacitance (uF) (Δ Connection)	Series (3)	Dimensions ØxH (in)	Weight (lb)	Catalog Number	List Price	Multiplier
	Reactive Power (kVAr)	Rated Current In (A)								
208	0.45	1.2	9.1	9.1 x 3	D	2.4 x 6.1	1.19	UCWT0.5V25 L10	\$45.00	Z11
	0.67	1.9	13.7	13.7 x 3	D	2.4 x 6.1	1.19	UCWT0.75V25 L10	\$47.00	Z11
	0.89	2.5	18.3	18.3 x 3	D	2.4 x 6.1	1.19	UCWT1V25 L10	\$50.00	Z11
	1.34	3.7	27.4	27.4 x 3	D	2.4 x 6.1	1.19	UCWT1.5V25 L10	\$55.00	Z11
	1.79	5.0	36.6	36.6 x 3	D	2.4 x 6.1	1.19	UCWT2V25 L10	\$61.00	Z11
	2.23	6.2	45.7	45.7 x 3	D	2.4 x 8.3	1.19	UCWT2.5V25 L16	\$70.00	Z11
	2.68	7.4	54.8	54.8 x 3	D	2.4 x 8.3	1.52	UCWT3V25 L16	\$76.00	Z11
	4.47	12.4	91.4	91.4 x 3	E	2.9 x 8.7	3.01	UCWT5V25 N20	\$124.00	Z11
	6.70	18.6	137.1	137.1 x 3	E	2.9 x 11.1	3.85	UCWT7.5V25 N22	\$148.00	Z11
	8.94	24.8	182.8	182.8 x 3	E	2.9 x 11.1	3.85	UCWT10V25 N22	\$175.00	Z11
	11.17	31.0	228.5	228.3 x 3	E	3.3 x 14	4.40	UCWT12.5V25 O24	\$192.00	Z11
240	13.41	37.2	274.2	274 x 3	E	3.3 x 14	4.40	UCWT15V25 O24	\$246.00	Z11
	0.50	1.2	7.7	7.7 x 3	D	2.4 x 6.1	1.19	UCWT0.5V29 L10	\$45.00	Z11
	0.75	1.8	11.5	11.5 x 3	D	2.4 x 6.1	1.19	UCWT0.75V29 L10	\$47.00	Z11
	1.00	2.4	15.4	15.4 x 3	D	2.4 x 6.1	1.19	UCWT1V29 L10	\$50.00	Z11
	1.50	3.6	23.0	23.0 x 3	D	2.4 x 6.1	1.19	UCWT1.5V29 L10	\$55.00	Z11
	2.00	4.8	30.7	30.7 x 3	D	2.4 x 6.1	1.19	UCWT2V29 L10	\$61.00	Z11
	2.50	6.0	38.4	38.4 x 3	D	2.4 x 8.3	1.19	UCWT2.5V29 L16	\$70.00	Z11
	3.00	7.2	46.1	46.1 x 3	D	2.4 x 8.3	1.19	UCWT3V29 L16	\$76.00	Z11
	5.00	12.0	76.8	76.8 x 3	E	2.9 x 8.7	3.01	UCWT5V29 N20	\$124.00	Z11
	7.50	18.0	115.2	115.2 x 3	E	2.9 x 11.1	3.98	UCWT7.5V29 N22	\$148.00	Z11
	10.00	24.1	153.6	153.6 x 3	E	3.3 x 14	4.40	UCWT10V29 O24	\$175.00	Z11
	12.50	30.1	192.0	192.0 x 3	E	3.3 x 14	4.40	UCWT12.5O 024	\$246.00	Z11

(1) For other voltages, please contact WEG.

(2) Discharge resistors sized so the voltage on the terminals of the capacitor is 1/10 of the rated voltage in 30 s.

(3) The D series capacitors are provided with internal resistors in the capacitive cell.
 The E series capacitors are provided with external resistors in the capacitive cell.

Three Phase Capacitive Units - UCWT

Power 0.37...15 (kVAR)
Rated Voltage 208...240 (V)

Power 0.37...25 (kVAR)
Rated Voltage 380...480 (V)



Three Phase Capacitors - UCWT ^{(1) and (2)}										
Rated Voltage (V)	60 Hz		Capacitance (uF)	Capacitance (uF) (Δ Connection)	Series (3)	Dimensions ØxH (in)	Weight (lb)	Catalog Number	List Price	Multiplier
	Reactive Power (kVAR)	Rated Current In (A)								
480	0.50	0.6	1.9	1.9 x 3	D	2.4 x 6.1	1.17	UCWT0.5V53 L10	\$43.00	Z11
	0.75	0.9	2.9	2.9 x 3	D	2.4 x 6.1	1.17	UCWT0.75V53 L10	\$45.00	Z11
	1.00	1.2	3.8	3.8 x 3	D	2.4 x 6.1	1.17	UCWT1V53 L10	\$47.00	Z11
	1.50	1.8	5.8	5.8 x 3	D	2.4 x 6.1	1.17	UCWT1.5V53 L10	\$51.00	Z11
	2.00	2.4	7.7	7.7 x 3	D	2.4 x 6.1	1.17	UCWT2V53 L10	\$56.00	Z11
	2.50	3.0	9.6	9.6 x 3	D	2.4 x 6.1	1.17	UCWT2.5V53 L10	\$60.00	Z11
	5.00	6.0	19.2	19.2 x 3	D	2.4 x 8.3	1.52	UCWT5V53 L16	\$80.00	Z11
	7.50	9.0	28.8	28.8 x 3	E	2.9 x 8.7	2.93	UCWT7.5V53 N20	\$103.00	Z11
	10.00	12.0	38.4	38.4 x 3	E	2.9 x 8.7	3.04	UCWT10V53 N20	\$118.00	Z11
	12.50	15.0	48.0	48.0 x 3	E	2.9 x 11.1	3.81	UCWT12.5V53 N22	\$131.00	Z11
	15.00	18.0	57.6	57.6 x 3	E	2.9 x 11.1	0.00	UCWT15V53 N22	\$145.00	Z11
	17.50	21.0	67.2	67.15 x 3	E	3.3 x 14	4.40	UCWT17.5V53 024	\$219.00	Z11
	20.00	24.1	76.8	76.7 x 3	E	3.3 x 14	4.40	UCWT20V53 024	\$232.00	Z11
	22.50	27.1	86.4	86.3 x 3	E	3.3 x 14	4.40	UCWT22.5V53 024	\$246.00	Z11
	25.00	30.1	96.0	96.3 x3	E	3.3 x 14	4.40	UCWT25V53 024	\$259.00	Z11

(1) For other voltages, please contact WEG.

(2) Discharge resistors sized so the voltage on the terminals of the capacitor is 1/10 of the rated voltage in 30 s.

(3) The D series capacitors are provided with internal resistors in the capacitive cell.

The E series capacitors are provided with external resistors in the capacitive cell.



Capacitive Units - Technical Data

Technical Characteristics	A Series		B Series	C Series	D Series	E Series	F Series
Phases	Single Phase			Three Phase			
Power	0.62...0.83 [kVAr]	0.62...6.67 [kVAr]	3.72...10 [kVAr]	0.37...5 [kVAr]	3.72...25 [kVAr]	7,45...25 [kvar]	
Rated Voltage	208...480 [V]	208...480 [V]					
Rated Frequency	50 or 60 [Hz]						
Capacitance tolerance	±5 [%]						
Useful Life	100.000 [h]						
Temperature class	Min temperature: -13 °F Max temperature: 131 °F Avg. max. temp. in 24h = 13 °F Avg. max. temp. in 1 year = 95 °F						
Safety	Self-healing polypropylene film Disconnection for overpressure						
Max. Short Circuit Capacity	10 [kA] @ 560V						
Protection Degree	IP00	IP00	IP20	IP50	IP20		
Max. Altitude ⁽¹⁾	6561 (ft)						
Shield / Terminal	Plastic / Double Fast-on	Plastic / Screw + Washer	Aluminum / Box	Plastic / Screw + Washer	Aluminum / Box		
Input Cable Connection	Fast-on Terminal	M3 Flat/Philips	Box Terminal	M3 Flat/Philips	Box Terminal		
Input Cable Section	20...10 AWG		16...10 AWG	20...10 AWG	10...8 AWG		
Input Cable Torque	-	7...13 (lb-in)	13...22 (lb-in)	7...13 (lb-in)	13...22 (lb-in)		
Discharge Resistance	Fast-on Terminal			Inside the product	Fast-on Terminal		
Discharge Resistor	Not Included		Included				
Capacitor Mounting Bolt	M8 bolt	M12 bolt					
Max. Torque for Capacitor	106 (lb-in)	124 (lb-in)					
Impregnation	Polyurethane Resin						
Max. Voltage	1.1 x Vn 8h Duration for each 24 h - not continuous (system fluctuation)						
Max. dV/dt	≤ 30 [V/μs]						
Max. Current	1.3 x In (short periods of time)						
Max. Inrush Current	≤ 100 x In						
Voltage Test Between Terminals	2.15 x Vn for 2 sec						
Voltage Test Between Terminals and Enclosure	3 kV for 2 sec						
Reference Standards	IEC 60831-1/2 UL 810						
Certifications	⁽²⁾  ⁽²⁾   ⁽²⁾						

(1) Maximum Altitude: 6561 ft. For application in higher altitudes, please contact WEG.

(2) in progress

Three Phase Capacitive Module - MCW

Power 1.85...10 (kVar)
Rated Voltage 208...240 (V)

Power 1.85...15 (kVar)
Rated Voltage 380...480 (V)



Three Phase Capacitive Module - MCW ^{(1) (2) (3)}								
Rated Voltage (V)	60 Hz		Composition Quant. x UCW (Δ Connection)	Dimensional LxWxD (in)	Weight (Lb)	Catalog Number	List Price	Mult.
	Reactive Power (kVar)	Rated Current In (A)						
208	2.23	6.2	3 x UCW0.83V25 L6	8.6 x 3.1 x 10	4.7	MCW2.5V25	\$149.00	Z11
	4.47	12.4	3 x UCW1.67V25 L6	8.6 x 3.1 x 10	4.7	MCW5V25	\$174.00	Z11
	6.70	18.6	3 x UCW2.5V25 L10	8.6 x 3.1 x 10	4.8	MCW7.5V25	\$192.00	Z11
	8.94	24.8	3 x UCW3.33V25 L10	8.6 x 3.1 x 10	4.8	MCW10V25	\$224.00	Z11
240	2.50	6.0	3 x UCW0.83V29 L4	8.6 x 3.1 x 10	4.7	MCW2.5V29	\$149.00	Z11
	5.00	12.0	3 x UCW1.67V29 L6	8.6 x 3.1 x 10	4.7	MCW5V29	\$174.00	Z11
	7.50	18.0	3 x UCW2.5V29 L10	8.6 x 3.1 x 10	4.8	MCW7.5V29	\$192.00	Z11
480	2.50	3.0	3 x UCW0.83V53 L6	8.6 x 3.1 x 10	4.8	MCW2.5V53	\$148.00	Z11
	5.00	6.0	3 x UCW1.67V53 L6	8.6 x 3.1 x 10	4.8	MCW5V53	\$158.00	Z11
	7.50	9.0	3 x UCW2.5V53 L6	8.6 x 3.1 x 10	4.8	MCW7.5V53	\$172.00	Z11
	10.00	12.0	3 x UCW3.33V53 L8	8.6 x 3.1 x 10	5.1	MCW10V53	\$185.00	Z11
	15.00	18.0	3 x UCW5V53 L10	8.6 x 3.1 x 10	4.8	MCW15V53	\$216.00	Z11

(1) For other voltages, please contact WEG.

(2) Three phase capacitive modules are provided with discharge resistors.

(3) Discharge resistors sized so the voltage on the terminals of the capacitor is 1/10 of the rated voltage in 30 s.



Capacitive Module - Technical Data

Technical Characteristics	MCW
Phases	Three Phase
Power	1.85...10 [kVar] for 208...240 [V] 1.85...15 [kVar] for 380...480 [V]
Rated Voltage	208...480 [V]
Rated Frequency	50 ou 60 [Hz]
Capacitance Tolerance	±5 [%]
Useful Life	100.000 [h]
Temperature Class	Min temperature: -13 °F Max temperature: 131 °F Avg. max. temp. in 24h = 13 °F Avg. max. temp. in 1 year = 95 °F
Safety	Self-healing polypropylene film Disconnection for overpressure
Max. Short Circuit Capacity	10 [kA] @ 560V
Protection Degree	IP40
Max. Altitude ⁽¹⁾	6561 (ft)
Input Cable Connection	Terminal LUG
Input Cable Section	16...2 AWG
Input Cable Torque	70...88 (lb-in)
Discharge Resistor	Included
Module Fixing	M8 Bolt
Max. Torque for Module Fixing	106 [lb-in]
Impregnation	Polyurethane Resin
Max. Voltage	1.1 x Vn 8h duration for each 24 h - not continuous (system fluctuation)
Max. dV/dt	≤ 30 [V/μs]
Max. Current	1.3 x In (short periods of time)
Max. Inrush Current	≤ 100 x In
Voltage Test Between Terminals	2.15 x Vn for 2 sec
Voltage Test Between Terminals and Enclosure	3 kV for 2 sec
Reference Standards	IEC 60831-1/2 UL 810
Certifications	 

(1) Maximum Altitude: 6561 ft. For application in higher altitudes, please contact WEG.



Accessories for Capacitors

Discharge Resistors

Discharge Resistance				
UCW (A and B Series)				
Catalog Number	Resistance / Power	Package Quantity	List Price	Multiplier
RDC 56K Ω 3W	56 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 82K Ω 3W	82 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 120K Ω 3W	120 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 150K Ω 3W	150 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 180K Ω 3W	180 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 270K Ω 3W	270 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 390K Ω 3W	390 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 560K Ω 3W	560 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 1M Ω 3W	1 M Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
UCW (C Series)				
Catalog Number	Resistance / Power	Package Quantity	List Price	Multiplier
RDC 28K Ω 6W	28 k Ω / 6 W	1pk with 3 pieces	\$6.00	Z11
RDC 41K Ω 6W	41 k Ω / 6 W	1pk with 3 pieces	\$6.00	Z11
RDC 60K Ω 6W	60 k Ω / 6 W	1pk with 3 pieces	\$6.00	Z11
RDC 75K Ω 6W	75 k Ω / 6 W	1pk with 3 pieces	\$6.00	Z11
RDC 135K Ω 6W	135 k Ω / 6 W	1pk with 3 pieces	\$6.00	Z11
UCWT (E and F Series)				
Catalog Number	Resistance / Power	Package Quantity	List Price	Multiplier
RDC 39K Ω 3W - UCW-T	3x39 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 56K Ω 3W - UCW-T	3x56 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 82K Ω 3W - UCW-T	3x82 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 120K Ω 3W - UCW-T	3x120 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 150K Ω 3W - UCW-T	3x150 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 180K Ω 3W - UCW-T	3x180 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 270K Ω 3W - UCW-T	3x270 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11
RDC 390K Ω 3W - UCW-T	3x390 k Ω / 3 W	1pk with 3 pieces	\$3.00	Z11



Capacitor Mounting

Nuts and Washer for UCW and UCWT assembly			
Catalog Number	Series	List Price	Multiplier
PAC M8	A	\$1.00	Z11
PAC M12	B, C, D, E and F	\$1.00	Z11

MCW Interconnection

Busbars for MCW Interconnection			
Catalog Number	Series	List Price	Multiplier
BI-MCW	MCW	\$8.00	Z11



BI-MCW

For 2 x MCW = use 1 x BI-MCW
 For 3 x MCW = use 2 x BI-MCW
 For 4 x MCW = use 3 x BI-MCW



Three Phase Enclosed Capacitors - BCW

BCW Series

Straight-forward Design

WEG Enclosed Power Factor Capacitor Banks include Three-phase WEG UCWT Capacitors in a NEMA 4 enclosure that is easy to install and wire.

Reliability

WEG UCWT Capacitors are assembled with high performance and low loss, self healing polypropylene dielectric film.

Flexibility

Three phase enclosed capacitor banks available with or without fuses. NEMA 4 enclosure is standard, so no need to worry whether the installation is indoors or outdoors.



Three Phase Enclosed Capacitors - BCW

Non-Fused - 240V

Catalog Number ¹	Reactive Power (kVAr)	Rated Current In (A)	Enclosure Size (in) H x W x D	Enclosure Drawing Ref	List Price	Mult.
BCWTC050V29A4-N	0.5	1.20	11.8 x 7.9 x 4.8	A	\$603.00	Z11
BCWTC075V29A4-N	0.75	1.80			\$606.00	
BCWTC100V29A4-N	1	2.41			\$609.00	
BCWTC150V29A4-N	1.5	3.61			\$617.00	
BCWTC200V29A4-N	2	4.81			\$624.00	
BCWTC250V29B4-N	2.5	6.01	15.8 x 7.9 x 4.8	B	\$643.00	Z11
BCWTC300V29B4-N	3	7.22			\$650.00	
BCWTC500V29B4-N	5	12.03			\$709.00	
BCWTC750V29C4-N	7.5	18.04	19.8 x 7.9 x 4.8	C	\$810.00	Z11
BCWTD100V29E4-N	10	24.06	23.6 x 11.8 x 4.8	E	\$967.00	Z11
BCWTD125V29E4-N	12.5	30.07			\$1,055.00	
BCWTD150V29E4-N	15	36.08			\$1,121.00	
BCWTD175V29E4-N	17.5	42.10			\$1,342.00	
BCWTD200V29E4-N	20	48.11			\$1,374.00	
BCWTD250V29E4-N	25	60.14			\$1,475.00	
BCWTD275V29E4-N	27.5	66.15			\$1,561.00	
BCWTD300V29E4-N	30	72.17			\$1,576.00	
BCWTD350V29F4-N	35	84.20	23.6 x 15.8 x 4.8	F	\$1,791.00	Z11
BCWTD400V29F4-N	40	96.23			\$1,892.00	
BCWTD450V29F4-N	45	108.25			\$1,994.00	

Fused - 240V

Catalog Number ¹	Reactive Power (kVAr)	Rated Current In (A)	Enclosure Size (in) H x W x D	Enclosure Drawing Ref	List Price	Mult.
BCWTC050V29A4-F	0.5	1.20	11.8 x 7.9 x 4.8	A	\$833.00	Z11
BCWTC075V29A4-F	0.75	1.80			\$836.00	
BCWTC100V29A4-F	1	2.41			\$839.00	
BCWTC150V29A4-F	1.5	3.61			\$847.00	
BCWTC200V29A4-F	2	4.81			\$854.00	
BCWTC250V29B4-F	2.5	6.01	15.8 x 7.9 x 4.8	B	\$871.00	Z11
BCWTC300V29B4-F	3	7.22			\$881.00	
BCWTC500V29B4-F	5	12.03			\$934.00	
BCWTC750V29C4-F	7.5	18.04	19.8 x 7.9 x 4.8	C	\$1,236.00	Z11
BCWTD100V29E4-F	10	24.06	23.6 x 11.8 x 4.8	E	\$1,378.00	Z11
BCWTD125V29E4-F	12.5	30.07			\$1,696.00	
BCWTD150V29E4-F	15	36.08			\$1,488.00	
BCWTD175V29E4-F	17.5	42.10			\$1,663.00	
BCWTD200V29E4-F	20	48.11			\$1,735.00	
BCWTD250V29E4-F	25	60.14			\$1,848.00	
BCWTD275V29E4-F	27.5	66.15			\$1,924.00	
BCWTD300V29F4-F	30	72.17	23.6 x 15.8 x 4.8	F	\$2,384.00	Z11
BCWTD350V29F4-F	35	84.20			\$2,651.00	
BCWTD400V29F4-F	40	96.23			\$2,760.00	
BCWTD450V29F4-F	45	108.25			\$2,908.00	

(1) For other voltages, please contact WEG.



Three Phase Enclosed Capacitors - BCW

Non-Fused - 480V

Catalog Number ¹	Reactive Power (kVAr)	Rated Current In (A)	Enclosure Size (in) H x W x D	Enclosure Drawing Ref	List Price	Mult.
BCWTC050V53A4-N	0.5	0.60	11.8 x 7.9 x 4.8	A	\$601.00	Z11
BCWTC075V53A4-N	0.75	0.90			\$603.00	
BCWTC100V53A4-N	1	1.20			\$606.00	
BCWTC150V53A4-N	1.5	1.80			\$612.00	
BCWTC200V53A4-N	2	2.41			\$617.00	
BCWTC250V53A4-N	2.5	3.01			\$622.00	
BCWTC300V53A4-N	3	3.61			\$627.00	
BCWTC500V53B4-N	5	6.01	15.8 x 7.9 x 4.8	B	\$658.00	Z11
BCWTC750V53B4-N	7.5	9.02			\$688.00	
BCWTD100V53B4-N	10	12.03			\$706.00	
BCWTD125V53C4-N	12.5	15.04	19.7 x 7.8 x 4.8	C	\$795.00	Z11
BCWTD150V53C4-N	15	18.04			\$812.00	
BCWTD175V53E4-N	17.5	21.05	23.7 x 11.8 x 4.8	E	\$1,030.00	Z11
BCWTD200V53E4-N	20	24.06			\$1,048.00	
BCWTD225V53E4-N	22.5	27.06			\$1,065.00	
BCWTD250V53E4-N	25	30.07			\$1,082.00	
BCWTD275V53D4-N	27.5	33.08	19.7 x 11.8 x 4.8	D	\$1,280.00	Z11
BCWTD300V53D4-N	30	36.08			\$1,297.00	
BCWTD350V53E4-N	35	42.10	23.6 x 11.8 x 4.8	E	\$1,498.00	Z11
BCWTD400V53E4-N	40	48.11			\$1,531.00	
BCWTD450V53E4-N	45	54.13			\$1,565.00	
BCWTD500V53E4-N	50	60.14			\$1,598.00	
BCWTD600V53F4-N	60	72.17	23.6 x 15.8 x 4.8	F	\$1,926.00	Z11
BCWTD750V53F4-N	75	90.21			\$2,026.00	

(1) For other voltages, please contact WEG.



Three Phase Enclosed Capacitors - BCW

Fused - 480V

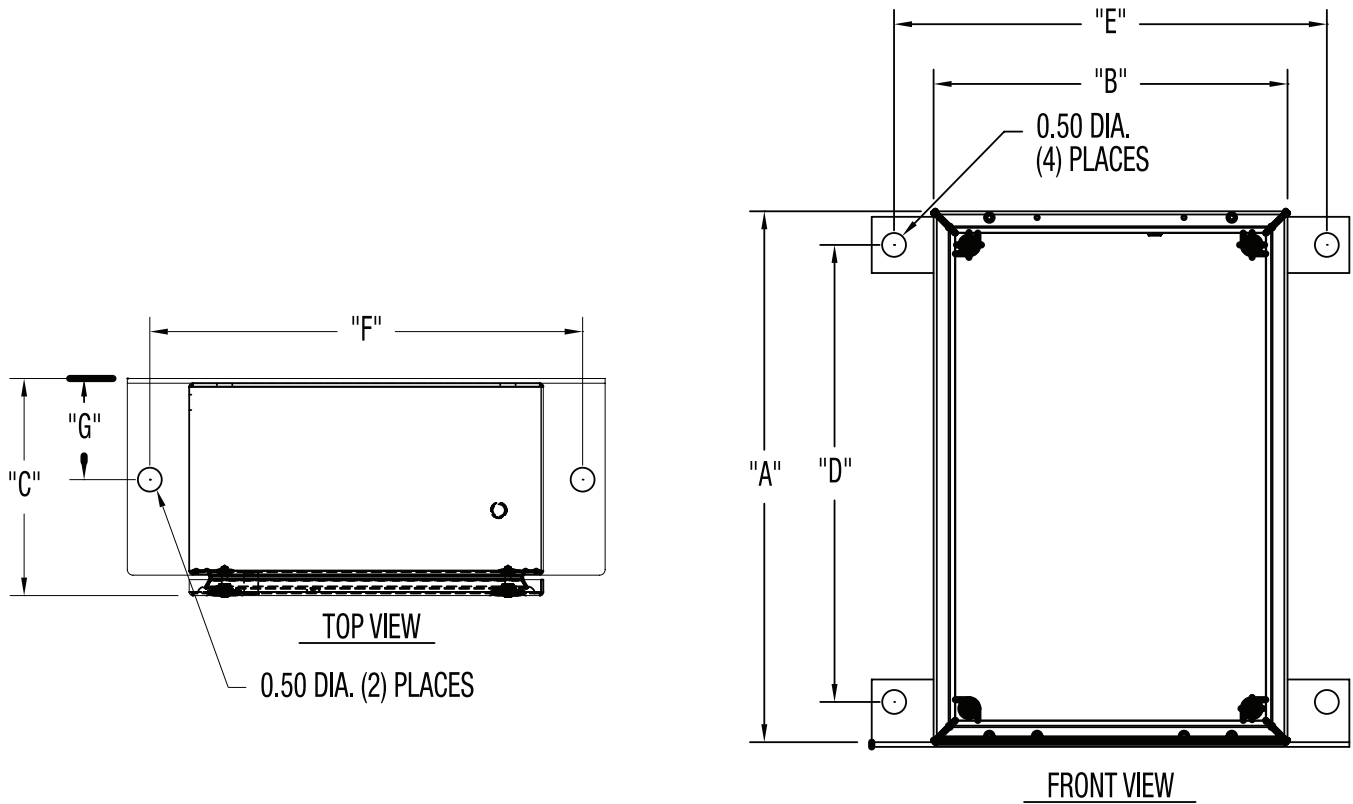
Catalog Number ¹	Reactive Power (kVAr)	Rated Current In (A)	Enclosure Size (in) H x W x D	Enclosure Drawing Ref	List Price	Mult.
BCWTC050V53A4-F	0.5	0.60	11.8 x 7.9 x 4.8	A	\$832.00	Z11
BCWTC075V53A4-F	0.75	0.90			\$834.00	
BCWTC100V53A4-F	1	1.20			\$836.00	
BCWTC150V53A4-F	1.5	1.80			\$841.00	
BCWTC200V53A4-F	2	2.41			\$846.00	
BCWTC250V53A4-F	2.5	3.01			\$851.00	
BCWTC300V53A4-F	3	3.61			\$856.00	
BCWTC500V53B4-F	5	6.01	15.8 x 7.9 x 4.8	B	\$889.00	Z11
BCWTC750V53B4-F	7.5	9.02			\$915.00	
BCWTD100V53B4-F	10	12.03			\$932.00	
BCWTD125V53C4-F	12.5	15.04	19.7 x 7.8 x 4.8	C	\$1,208.00	Z11
BCWTD150V53C4-F	15	18.04			\$1,238.00	
BCWTD175V53E4-F	17.5	21.05	23.7 x 11.8 x 4.8	E	\$1,435.00	Z11
BCWTD200V53E4-F	20	24.06			\$1,455.00	
BCWTD225V53E4-F	22.5	27.06			\$1,497.00	
BCWTD250V53E4-F	25	30.07			\$1,513.00	
BCWTD275V53D4-F	27.5	33.08	19.7 x 11.8 x 4.8	D	\$1,587.00	Z11
BCWTD300V53D4-F	30	36.08			\$1,656.00	
BCWTD350V53E4-F	35	42.10	23.6 x 11.8 x 4.8	E	\$1,836.00	Z11
BCWTD400V53E4-F	40	48.11			\$1,877.00	
BCWTD450V53E4-F	45	54.13			\$1,918.00	
BCWTD500V53E4-F	50	60.14			\$1,959.00	
BCWTD600V53F4-F	60	72.17	23.6 x 15.8 x 4.8	F	\$3,110.00	Z11
BCWTD750V53F4-F	75	90.21			\$3,237.00	

(1) For other voltages, please contact WEG.



Three Phase Enclosed Capacitors - BCW

Enclosure Dimension (in)



CAPACITOR ENCLOSURE DIMENSIONS							
DRAWING REF	"A"	"B"	"C"	"D"	"E"	"F"	"G"
A	11.81	7.87	4.83	10.25	9.50	9.50	2.25
B	15.75	7.87	4.83	14.18	9.50	9.50	2.25
C	19.69	7.87	4.83	18.12	9.50	9.50	2.25
D	19.69	11.81	4.83	18.12	13.50	13.50	2.25
E	23.62	11.81	4.83	22.06	13.50	13.50	2.25
F	23.62	15.75	4.83	22.06	17.50	17.50	2.25

Contactors for Capacitor Switching

Switching of power factor correction capacitors

WEG's special CWMC contactors series for switching of capacitors is designed according to UL 508 and IEC 60947-1, and provides the best solution for the switching of power factor correction capacitors.

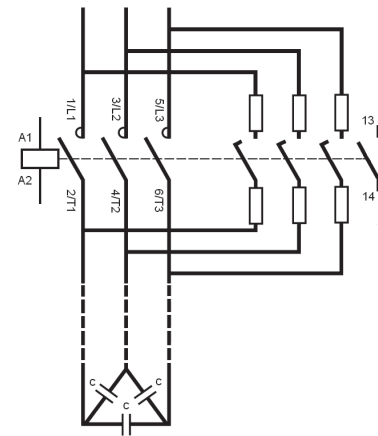
No more in-rush

When switching on a capacitor bank, the capacitors are uncharged and the system sees them as a short circuit for a quick period of time.

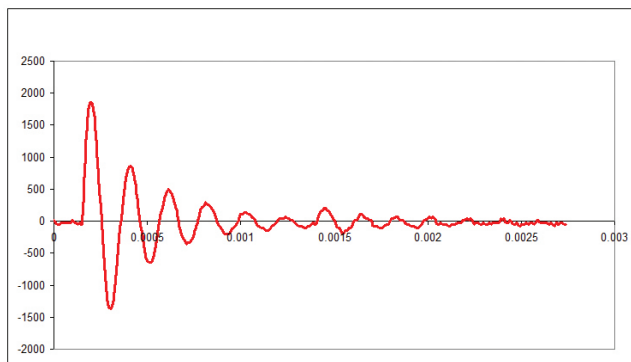
The in-rush current is the result of this little short circuit and usually lasts for some milliseconds. It may reach 100 times the rated current which one of the main reasons for the short life of a capacitor.

The CWMC contactor is assembled with damping resistors which limit the high in-rush current when the capacitors are switched on. They are assembled with an early-make contact block which is switched on before the main contacts thus, limiting the in-rush current.

However, the damping resistors don't influence the final load, since they are switched off after 5 milliseconds leaving only the capacitors in parallel with their inductive load providing the proper power factor correction. This process increases the lifetime of the capacitors and also prevents line distortions.

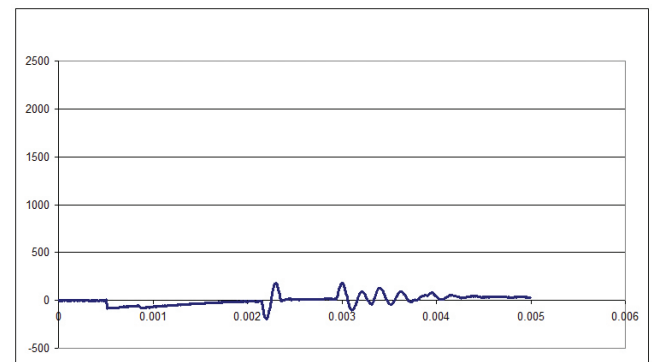


Current on the contacts, without damping resistors



I_u (A) with standard contactors

Current on the contacts, with damping resistors installed



I_u (A) with WEG CWMC contactor

Certifications



SABS - South Africa



US

Contactors for Capacitor Switching

Modular design

For 35 mm DIN rail or screw assembly.

Damping resistors

Avoids high in-rush current

Contactor data and certifications

Shows all necessary information of CWMC.

Auxiliary Contact

CWMC allows use of standard NO or NC contact blocks, the same used with WEG CWM contactors series

Early make contact block

Connects damping resistors and switches off after 5 ms



New models

CWMC contactors are available in 5 different models in 3 different frames. All contactors are available with AC coils with a large variety of voltage ranges for 50 or 60 Hz. For DC coils and further information, please contact a WEG representative.

CWMC contactor for switching of capacitors (AC-6b)

Catalog Number	Thermal current I _{th} (A)	Rated current AC-6b I _n (A)	Reactive power (kVar)				
			220-230 Vac	480 Vac	660/690 Vac	List Price	Multiplier
CWMC25-10-30**	45	30	11	25	34	\$225.00	Z1
CWMC32-10-30**	60	41	15	33	45	\$237.00	Z1
CWMC50-10-30**	90	60	25	50	65	\$284.00	Z1
CWMC65-10-30**	110	77	30	65	87	\$312.00	Z1

To complete catalog number, replace ** with appropriate coil voltage code

** Complete with the voltage code			
X18	X23	X30	X47
120V60Hz	208V60Hz	240V60Hz	480V60Hz

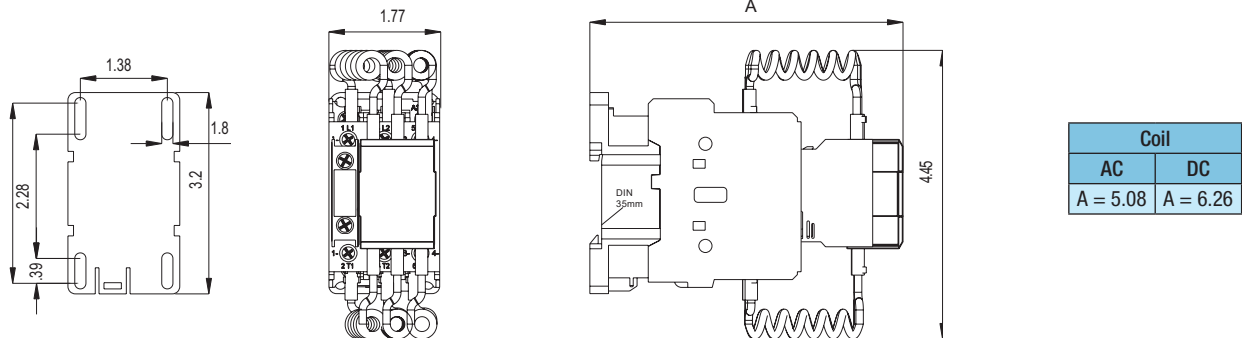
Technical Characteristics

AC COIL			CWMC25	CWMC32	CWMC50	CWMC65
Reactive Power AC-6b @ 55 °C	220 - 230 V	kVar	11	15	25	30
	380 - 415 V		20	25	40	50
	440 V		23	30	45	60
	480 V		25	33	50	65
	660 - 690 V		34	45	65	87
AC-6b Current (I _b)	(131°F)	A	30	40	60	77
Thermal Current (I _{th})	(131°F)		45	60	90	110
AC-6b Current (I _b)	(158°F)		22	34	50	62
Max Fuse (gL/gG)			50	63	100	125
Max Fuse Acc. to UL/CSA (J Type)			45	60	100	125
Cable cross section		mm ²	2 x 10	2 x 16	2 x 35	2 x 35
		AWG	2 x 8	2 x 6	2 x 2	2 x 2
Tightening torque		Lb-in	14...26	22...35	35...53	35...53
Max. operation per hour		ops/h.	120			
Max. Number of Auxiliary contacts			1	3	5	
Electrical Lifespan			Ops x 10 ³	100	100	100
Coil consumption (AC) Pick-up/Sealing			VA	75/9.3	123/12.5	308/25

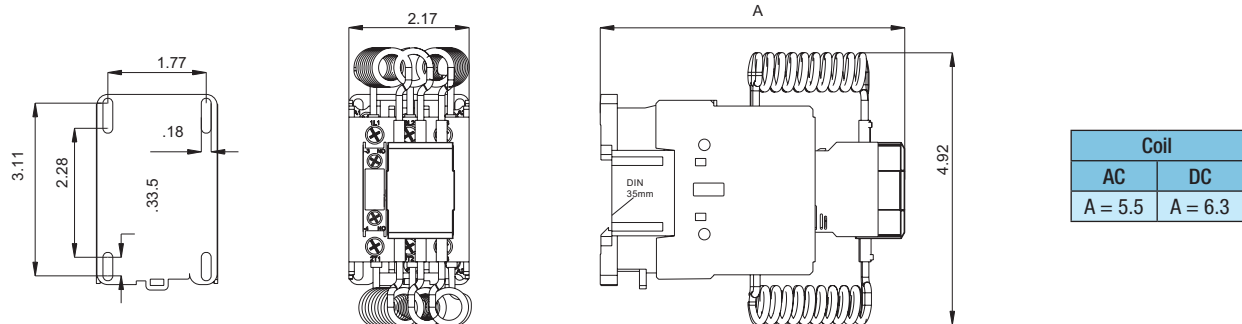
Contactors for Capacitor Switching

Contactors – Dimensions (in)

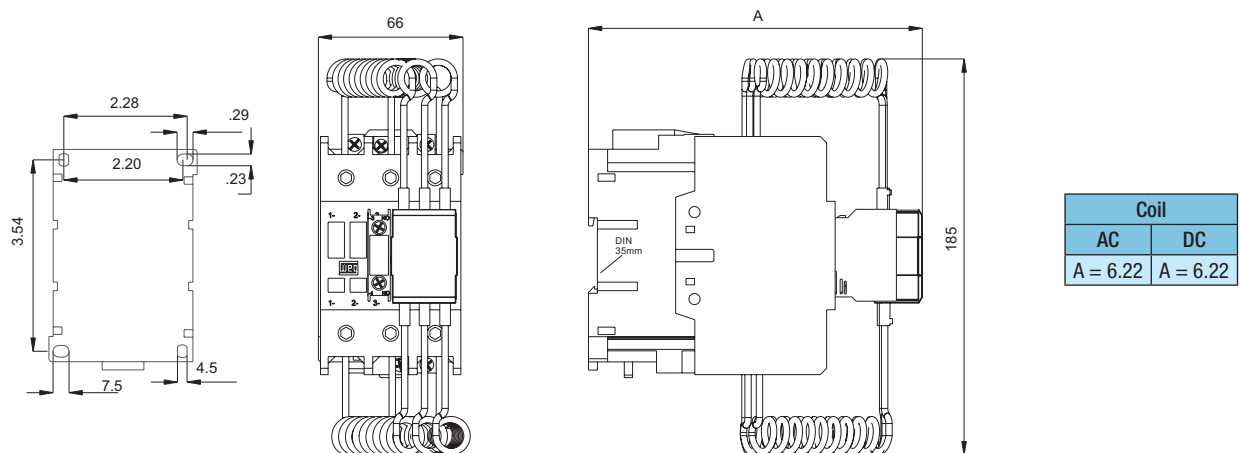
CWMC25



CWMC32



CWMC50 and CWMC65



WEG's scope of solutions is not limited to the products and solutions presented in this brochure.

Contact WEG for information on additional products and solutions.

**For WEG's worldwide
operations visit our website**



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