GE
Digital Energy

Low & Medium Voltage Power Factor Correction Capacitors, Harmonic Filters and Line/Load Reactors

240V through 4800V

Product Selection & Application Guide

Product Description

GE supplies Low Voltage and Medium Voltage fixed and automatically switched capacitors for power factor correction and harmonic mitigation, in the range of 240V through 13.2kV. GE also supplies active filtering equipment and line/load reactors for specific line and load applications.

GEM™ Series Fixed Capacitors

GEMATIC™ Series Automatically Switched Capacitors

GEMTRAP™ Series for Non-Linear Load Applications

GEM OFW Series for Outdoor Pumping

HWT Medium Voltage series Capacitors

GEMACTIVE™ Active Filter Equipment

GE Line/Load Reactors

GE Matrix Fixed Harmonic Filters

Table of Contents

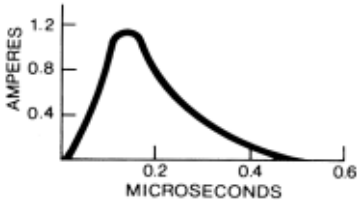
Capacitor Technology & Application

GEM Capacitors

GE's GEM capacitors are manufactured with high-grade metallized polypropylene film. Low loss polypropylene film with metallized electrode provides smaller, lighter units. Dielectric self-healing characteristics, plus internal Pressure Sensitive Interrupters, result in a double assurance of safety. Multiple cell construction allows for complete flexibility in capacitor selection.

Instant "Self-Healing" Feature

During a dielectric breakdown an arc occurs across the dielectric at the puncture. The thin metallized electrode will vaporize away from the puncture, then the arc self- extinguishes and bare polypropylene film remains, leaving the capacitor intact. This "self-healing" process is instantaneous - only 0.5 microseconds from initial fault current flow until clearing is complete.



Nuisance Fault and Cell Rupture Protected

The patented GE Pressure Sensitive Interrupter (PSI - Fig. 1), in conjunction with the self-clearing feature, helps protect against nuisance faults and cell rupture. This field proven feature interrupts capacitor current when internal pressure forces the cover up and breaks an undercover contact (see Fig. 2).

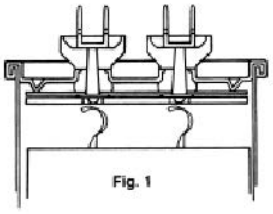


Fig. 1

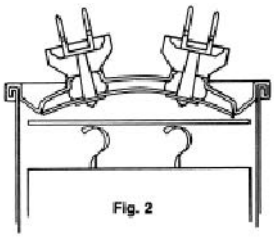


Fig. 2

GE Film/Foil Capacitors

GE's Film/Foil capacitors offer an energy efficient polypropylene film dielectric. This heavy duty Film/Foil dielectric system is designed to handle unusual overvoltage and overcurrent without reducing capacitor life. The Film/Foil dielectric results in low watts per kVAR power consumption during capacitor operation. The 0.5 watts per kVAR losses and corresponding low internal heat generation mean low operating temperatures for the Film/Foil capacitor, a significant factor in extending capacitor life.

Type HWT Fixed Medium Voltage – Power Factor Correction Capacitors

Medium Voltage Fixed Capacitors

Product Information

- 2400, 4160, 4800, 6600, 7200, 12470, 13200 volt ratings available
- Additional voltages below 13.2kV are available by de-rating (contact factory for details)
- Indoor Dustproof and Outdoor Weatherproof
- Three Phase Delta, 60Hz
- Not for use in harmonic applications

Description

HWT's Film/Foil capacitors offer an energy efficient polypropylene film dielectric. This heavy duty conventional film dielectric system is designed to handle unusual overvoltages and overcurrents without reducing capacitor life. The Film/Foil dielectric results in low watts per kVAR power consumption during capacitor operation. The less than 0.2 watts per kVAR losses and corresponding low internal heat generation mean low operating temperatures for the Film/Foil capacitor, a significant factor in extending capacitor life. Film/Foil designs feature time-proven Dielektrol, a biodegradable NFPA Class IIIB dielectric fluid. This design offers high reliability and long life and is suitable for operation over a temperature range of -40°C to +46°C.

Line Terminals

Solderless connectors are provided on each phase:

Assembly	Connector Size
One unit	#10 - #4
Two unit	#14 - 1/0
Three unit	#6 - 250 MCM

Fuses

Protection is provided by 50,000 ampere interrupting capacity current limiting fuses. A pop-up button on the fuse gives visual indication of a blown fuse.

Mounting

HWT equipments are designed to be mounted upright on any level surface.

Type HWT Fixed Medium Voltage – Power Factor Correction Capacitors

Complete HWT Assemblies Including Terminal Box, Fuses and Mounting Frame

	2400 VOLT ASSEMBLIES	4160 VOLT ASSEMBLIES	4800 VOLT ASSEMBLIES		WEIGHT		C		E	
kVAR Rating	Catalog Number	Catalog Number	Catalog Number	Fig No.	lbs	kg	inches	mm	inches	mm
Individual Units- With Terminal Box and 3 Fuses per Unit										
25	37F0520431	37F0523431	37F0526431	1	64	29	27.68	703	6.96	177
50	37F0520432	37F0523432	37F0526432	1	64	29	27.68	703	6.96	177
75	37F0520433	37F0523433	37F0526433	1	64	29	27.68	703	6.96	177
100	37F0520434	37F0523434	37F0526434	1	69	31	29.44	748	8.71	221
125	37F0520435	37F0523435	37F0526435	1	76	35	30.18	767	9.46	240
150	37F0520436	37F0523436	37F0526443	1	81	37	32.68	830	11.96	304
175	37F0520438	37F0523438	37F0526445	1	86	39	33.35	847	12.63	321
200	37F0520437	37F0523437	37F0526444	1	92	42	33.35	847	12.63	321
225	37F0520439	37F0523439	37F0526446	1	103	47	36.06	916	18.33	466
250	37F0520440	37F0523440	37F0526447	1	103	47	36.06	916	18.33	466
275	37F0520441	37F0523441	37F0526448	1	114	52	39.06	992	18.33	466
300	-	37F0523442	37F0526449	1	114	52	39.06	992	18.33	466
Two Units Interconnected- With Terminal Box, 3 Fuses per Unit and Mounting Frame										
300	37F0521435	-	-	2	149	68	33.43	849	12.7	323
325	37F0521436	37F0524436	37F0527440	2	154	70	33.43	849	12.7	323
350	37F0521437	37F0524437	37F0527437	2	159	72	33.43	849	12.7	323
375	37F0521439	37F0524439	37F0527441	2	165	75	33.43	849	12.7	323
400	37F0521438	37F0524438	37F0527438	2	171	78	33.43	849	12.7	323
425	37F0521440	37F0524440	37F0527442	2	181	82	39.18	995	18.45	469
450	37F0521441	37F0524441	37F0527443	2	192	87	39.18	995	18.45	469
475	37F0521442	37F0524442	37F0527444	2	192	87	39.18	995	18.45	469
500	37F0521443	37F0524443	37F0527445	2	192	87	39.18	995	18.45	469
525	37F0521444	37F0524444	37F0527446	2	203	92	39.18	995	18.45	469
550	37F0521445	37F0524445	37F0527447	2	214	97	39.18	995	18.45	469
575	-	37F0524446	37F0527448	2	214	97	39.18	995	18.45	469
600	-	37F0524447	37F0527449	2	214	97	39.18	995	18.45	469
Three Units Interconnected- With Terminal Box, 3 Fuses per Unit and Mounting Frame										
575	37F0522442	-	-	3	248	113	33.43	849	12.7	323
600	37F0522441	-	-	3	254	115	33.43	849	12.7	323
625	37F0522443	37F0525443	37F0528442	3	265	120	39.18	995	18.45	469
650	37F0522444	37F0525444	37F0528443	3	276	125	39.18	995	18.45	469
675	37F0522445	37F0525445	37F0528444	3	287	130	39.18	995	18.45	469
700	37F0522446	37F0525446	37F0528445	3	298	130	39.18	995	18.45	469
725	37F0522447	37F0525447	37F0528446	3	298	130	39.18	995	18.45	469
750	37F0522448	37F0525448	37F0528447	3	298	130	39.18	995	18.45	469
775	37F0522449	37F0525449	37F0528448	3	309	135	39.18	995	18.45	469
800	37F0522450	37F0525450	37F0528449	3	320	140	39.18	995	18.45	469
825	-	37F0525451	37F0528450	3	331	145	39.18	995	18.45	469
850	-	37F0525452	37F0528451	3	331	145	39.18	995	18.45	469
875	-	37F0525453	37F0528452	3	331	145	39.18	995	18.45	469
900	-	37F0525454	37F0528453	3	331	145	39.18	995	18.45	469

- To order blown fuse lights, add "100" to the last 3 digits of the standard part number (Ex – 37F0525454 becomes 37F0525554)
- To order CSA Equipment, add "037" to the end of the standard part number (Ex – 37F0525454 becomes 37F0525454037)

Type HWT Fixed Medium Voltage – Power Factor Correction Capacitors

Type HWT Fixed Medium Voltage Correction Capacitors Drawings

Figure 1

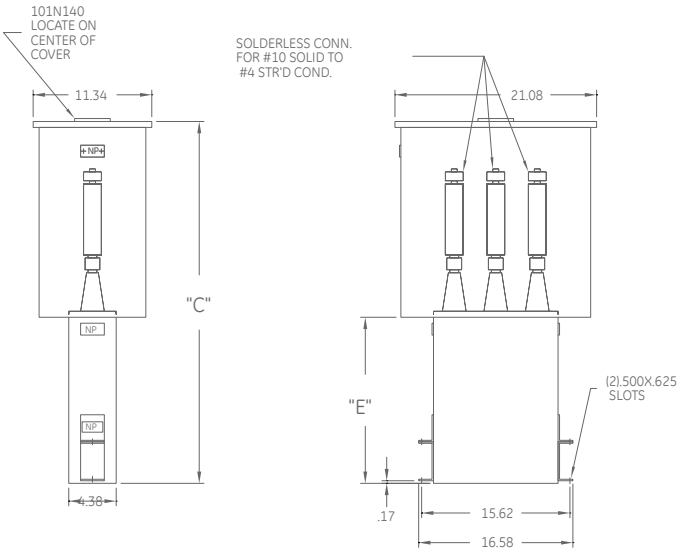


Figure 2

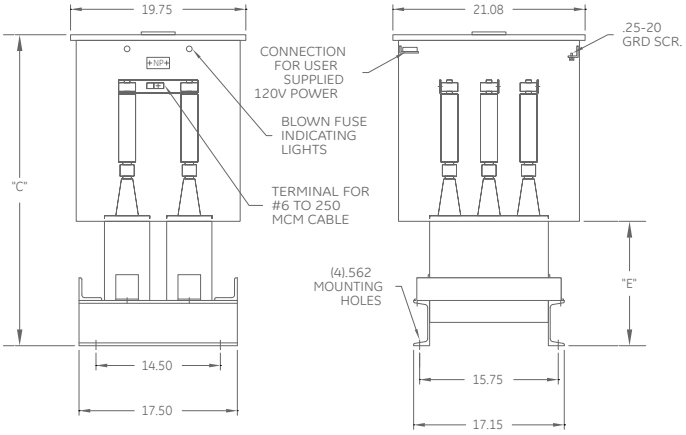
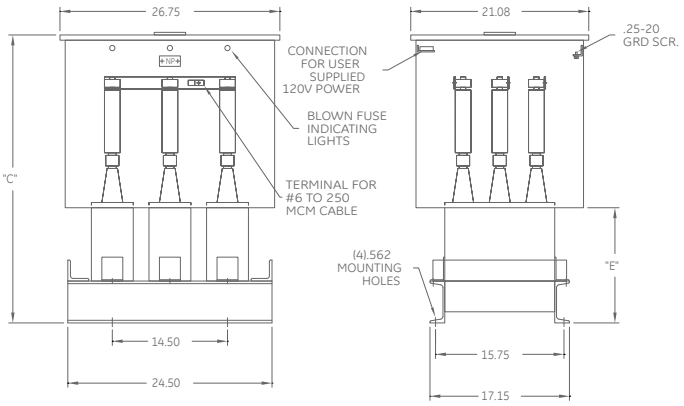


Figure 3



Type HWT Fixed Medium Voltage – Power Factor Correction Capacitors

Individual HWT Units and Fuses

	2400 VOLTS			4160 VOLTS			4800 VOLTS		
kVAR	Unit Catalog Number	Fuse Catalog Number	Amps	Unit Catalog Number	Fuse Catalog Number	Amps	Unit Catalog Number	Fuse Catalog Number	Amps
25	52L301WS60	115A161400653	35	52L302WS60	115A161400656	18	52L303WS61	115A161400656	18
50	51L301WS60	115A161400653	35	51L302WS60	115A161400656	18	51L303WS60	115A161400656	18
75	51L304WS60	115A161400653	35	51L305WS60	115A161400656	18	51L306WS60	115A161400656	18
100	54L303WS60	115A161400654	75	54L304WS60	115A161400658	50	54L305WS60	115A161400666	25
125	54L306WS60	115A161400654	75	54L307WS60	115A161400658	50	54L310WS60	115A161400666	25
150	54L308WS60	115A161400654	75	54L309WS60	115A161400658	50	54L403WS60	115A161400658	50
175	54L317WS60	115A161400654	75	54L313WS60	115A161400658	50	54L311WS60	115A161400658	50
200	58L302WS60	115A161400655	100	58L303WS60	115A161400658	50	58L424WS60	115A161400658	50
225	16L0153WS3	115A161400655	100	16L0156WS3	115A161400658	50	16L0160WS3	115A161400658	50
250	16L0154WS3	115A161400655	100	16L0157WS3	115A161400671	75	16L0161WS3	115A161400658	50
275	16L0155WS3	115A161400655	100	16L0158WS3	115A161400671	75	16L0162WS3	115A161400671	75
300	-	-	-	16L0159WS3	115A161400671	75	16L0163WS3	115A161400671	75

- Top and bottom fuse adapter kit is required for each fuse. One kit per fuse is needed and contains 1 top and 1 bottom fuse adapter. Catalog number for fuse adapter kit is 308A390100001.
- For CSA labeled capacitors, order with 037 suffix added (Ex – 54L304WS60 becomes 54L304WS60037)