

StacoVAR® Motor Load (ML) Fixed Capacitor Assemblies

Reactive Power and
Harmonic Compensation
Low Voltage Systems



Product Highlights

- Voltage Ratings 240 Vac to 600 Vac
- Standard Sizes, 2.5 kVAR to 400 kVAR
- Harmonic Reactors Available
- Fusing and Blown Fuse Lights
- Complete Assembly UL 508A Listed, c-UL
- Economical Power Factor Improvement
- In-Stock or Fast Delivery Lead Times

Power factor improvement is available from 2.5 kVAR to 400 kVAR in economical, fixed motor load (ML) type capacitor assemblies. Each unit is offered for rugged industrial indoor or outdoor use and includes fusing and blown fuse indication lights. Specific user requirements can be accommodated with unique designs and other ratings. The standard, off-the-shelf capacitors provide a wide selection range for 240, 480, and 600 Vac electrical systems. Capacitors with iron core reactors tuned below the 5th harmonic are available for applying power factor correction in a harmonic rich environment.

These capacitor assemblies contain cells which are self-healing, metalized polypropylene to prevent permanent dielectric breakdown. Each capacitor cell is designed for long life and operation over a wide temperature range and is contained in an aluminum case. Capacitors are capable of operating under the most demanding conditions, including harmonic environments (up to 10% THD).

Pressure sensitive circuit interruption is incorporated within the capacitor cell to safely remove the unit from service under heavy fault conditions, while maintaining case integrity.

External discharge resistors allow voltage to be reduced to 50 volts or less within one minute. Resistors are sized for long life and continuous operation, at maximum rated temperature.

STACO
ENERGY
PRODUCTS CO.

StacoVAR® ML capacitors are housed in a rugged metal enclosure. All units include a terminal type power line connection and allow for quick, simple installation. Capacitor assemblies can be mounted either vertically or horizontally, helping to meet a variety of application needs.

Standard features include current limiting fuses rated at 165% of the rated current. Fuses provided are rated 200 kaic. Blown fuse indication lights (three) provide illumination for

fuse replacement. Where over-current protection is required, applicable NEC codes should be followed for proper equipment installation.

These capacitor assemblies are ideal for improving power factor where induction motors are located, as well as for multiple, small kVAR requirements. For larger kVAR, automatically switched capacitor banks, or harmonic mitigation, Staco Energy can provide these solutions, as well as help to coordinate a totally balanced power quality system.

Harmonics and Capacitors

Harmonic distortion generated from non-linear loads, such as variable speed drives, UPS, and other switch-mode power supplies can affect capacitors causing increased harmonic voltage and current. This includes higher operating temperatures and higher voltage stress, which will shorten the capacitor life expectancy. StacoVAR ML capacitors are available with iron core reactors tuned below the 5th harmonic to allow the application of capacitors for power factor correction in a harmonic rich environment while also eliminating some of the harmonics.

Capacitor Specifications

Electrical Characteristics	
Rated Voltage	240, 480, 600
Frequency	60Hz
Maximum Voltage	110% of capacitor rating
Maximum Capacity	135% of rated reactive power
Maximum Current	135% of rated capacitor current
Maximum Harmonic Distortion	10% THDv at 25°C
Capacitor Type	Self healing, metalized polypropylene
Internal Protection	Internal pressure switch
Capacitor Discharge Device	External resistors reduce voltage to <50V within 1 minute after de-energization.
Dielectric System	Liquid impregnation
Impregnation Fluid	Non-PCB, non-toxic, bio-degradable dielectric fluid (green friendly)
Dielectric Strength	2 x V(rated) + 1000V as per UL
Power Losses	<0.5 watts per kVAR at 25°C
Design Service Life	480,000 hours at 50°C
Mechanical Characteristics	
Enclosure Type	Metal (steel) enclosure
Capacitor Cell Case Type	Aluminum case
Terminals	Solid Copper, pressure type
Environmental Characteristics	
Operating Temperature	80°C maximum capacitor cell external case temperature
Storage Temperature	-40°C to + 65°C
Altitude	1000 meters maximum (without derating)
Relative Humidity	0-95% non-condensing
Standards and Approvals	
UL 810 (USA & Canada)	Power factor correction capacitors
UL-508A (USA & Canada)	Industrial control panels

Consult factory for other kVAR, voltage and frequency ratings



Your tailored power solutions provider

Enclosure Mounting and Connections

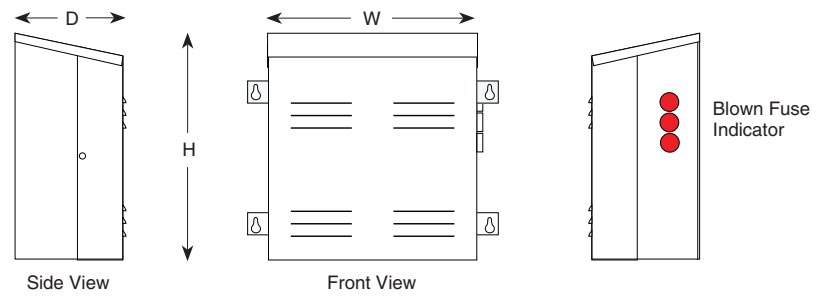
StacoVAR ML capacitors come standard in NEMA 3R enclosures. They are also available in NEMA 12. Powder coat paint ANSI 61 gray, with a durable finish (knock-outs not provided) allows site specific installation, and makes for easy service. Flange design allows wall or equipment mounting. (Available brackets for floor mounting).

Enclosure	H"	W"	D"
A	14	15	7
B	19	21	7
C	21	21	7
D	30	29	7
E	48	30	18
G	24	20	18
H	36	24	18
I	42	30	22
J	63	37	27
K	75	43	31
L	87	43	33
M	87	75	36

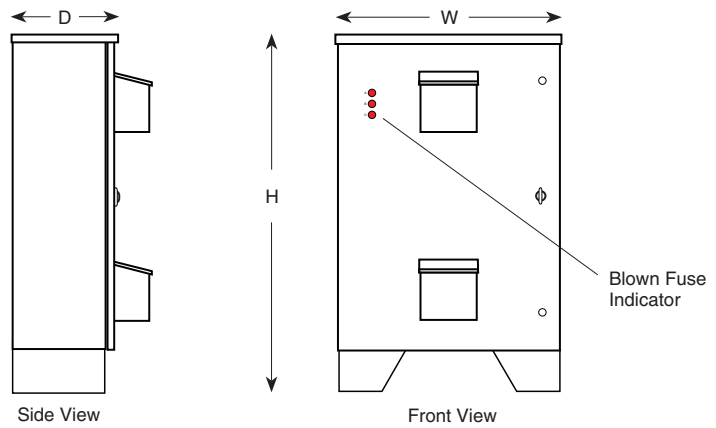
Dimensions shown are approximate and have been rounded up to next larger whole number.

Consult factory for individual product weights.

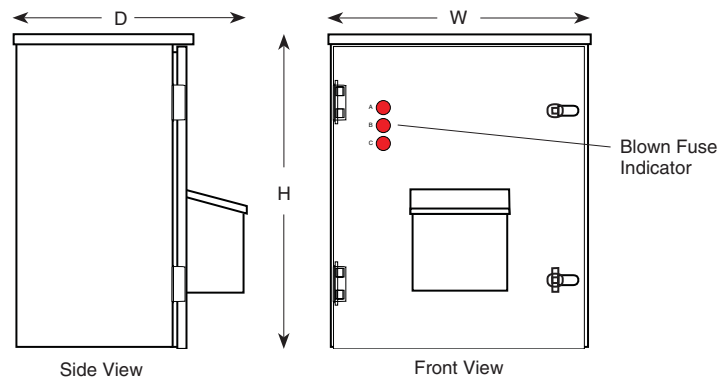
Enclosure sizes A – D



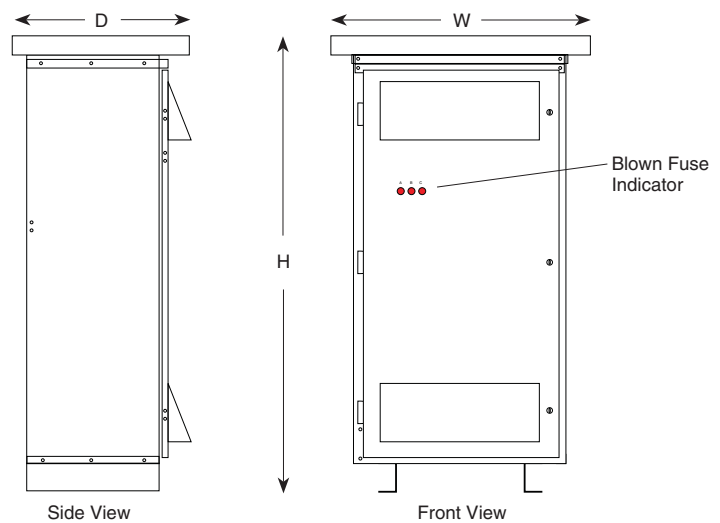
Enclosure size E, H & I



Enclosure sizes G



Enclosure sizes J – M



Part Numbers by kVAR, with Voltage and Fuse Ratings

240 Vac				480 Vac				600 Vac			
Part #	kVAR	FUSE (Amps)	Encl. Size	Part #	kVAR	FUSE (Amps)	Encl. Size	Part #	kVAR	FUSE (Amps)	Encl. Size
PF-0003-00L-N246Wx	2.5	10	A	PF-0003-00L-N486Wx	2.5	6	A	PF-0005-00L-N606Wx	5	10	A
PF-0005-00L-N246Wx	5	20	A	PF-0005-00L-N486Wx	5	10	A	PF-0008-00L-N606Wx	7.5	15	A
PF-0008-00L-N246Wx	7.5	30	A	PF-0008-00L-N486Wx	7.5	15	A	PF-0010-00L-N606Wx	10	20	A
PF-0010-00L-N246Wx	10	40	A	PF-0010-00L-N486Wx	10	20	A	PF-0013-00L-N606Wx	12.5	20	A
PF-0013-00L-N246Wx	12.5	50	A	PF-0013-00L-N486Wx	12.5	25	A	PF-0015-00L-N606Wx	15	25	A
PF-0015-00L-N246Wx	15	60	A	PF-0015-00L-N486Wx	15	30	A	PF-0020-00L-N606Wx	20	40	A
PF-0020-00L-N246Wx	20	80	B	PF-0020-00L-N486Wx	20	40	A	PF-0025-00L-N606Wx	25	40	B
PF-0025-00L-N246Wx	25	100	B	PF-0025-00L-N486Wx	25	50	A	PF-0030-00L-N606Wx	30	50	B
PF-0030-00L-N246Wx	30	125	B	PF-0030-00L-N486Wx	30	60	A	PF-0040-00L-N606Wx	40	70	B
PF-0040-00L-N246Wx	40	175	C	PF-0035-00L-N486Wx	35	70	B	PF-0050-00L-N606Wx	50	80	B
PF-0050-00L-N246Wx	50	200	D	PF-0040-00L-N486Wx	40	80	B	PF-0060-00L-N606Wx	60	100	C
PF-0060-00L-N246Wx	60	250	D	PF-0045-00L-N486Wx	45	90	B	PF-0075-00L-N606Wx	75	125	C
PF-0075-00L-N246Wx	75	300	E	PF-0050-00L-N486Wx	50	100	B	PF-0100-00L-N606Wx	100	175	D
PF-0100-00L-N246Wx	100	400	E	PF-0060-00L-N486Wx	60	125	B	PF-0125-00L-N606Wx	125	200	D
PF-0125-00L-N246Wx	125	500	E	PF-0075-00L-N486Wx	75	150	B	PF-0150-00L-N606Wx	150	250	D
PF-0150-00L-N246Wx	150	600	E	PF-0100-00L-N486Wx	100	200	C	PF-0175-00L-N606Wx	175	300	D
				PF-0125-00L-N486Wx	125	250	D	PF-0200-00L-N606Wx	200	350	E
				PF-0150-00L-N486Wx	150	300	D	PF-0225-00L-N606Wx	225	400	E
				PF-0175-00L-N486Wx	175	350	D	PF-0250-00L-N606Wx	250	400	E
				PF-0200-00L-N486Wx	200	400	D	PF-0300-00L-N606Wx	300	500	E
				PF-0225-00L-N486Wx	225	450	E	PF-0350-00L-N606Wx	350	600	E
				PF-0250-00L-N486Wx	250	500	E	PF-0400-00L-N606Wx	400	2 x 350	E
				PF-0300-00L-N486Wx	300	600	E				
				PF-0350-00L-N486Wx	350	2 x 350	E				
				PF-0400-00L-N486Wx	400	2 x 400	E				

Capacitors with Harmonic Reactors

480 Vac			
Part #	kVAR	FUSE (Amps)	Encl. Size
PFH-0010-00L-5486Wx	10	25	G
PFH-0015-00L-5486Wx	15	30	G
PFH-0020-00L-5486Wx	20	50	H
PFH-0025-00L-5486Wx	25	60	H
PFH-0030-00L-5486Wx	30	70	H
PFH-0035-00L-5486Wx	35	80	I
PFH-0040-00L-5486Wx	40	90	I
PFH-0045-00L-5486Wx	45	110	I
PFH-0050-00L-5486Wx	50	125	I
PFH-0060-00L-5486Wx	60	150	I
PFH-0075-00L-5486Wx	75	175	I
PFH-0100-00L-5486Wx	100	225	J
PFH-0125-00L-5486Wx	125	300	J
PFH-0150-00L-5486Wx	150	400	J
PFH-0175-00L-5486Wx	175	400	J
PFH-0200-00L-5486Wx	200	500	K
PFH-0225-00L-5486Wx	225	500	K
PFH-0250-00L-5486Wx	250	600	K
PFH-0300-00L-5486Wx	300	2 x 400	L
PFH-0350-00L-5486Wx	350	1 x 400 & 1 x 500	M
PFH-0400-00L-5486Wx	400	2 x 500	M

Wire size based on NEC at 135% of rated current using 90°C rated wire.

Note: For 208 Vac systems, use 240 kVAR rating and multiply by .75 for 208 kVAR rating.

Consult the factory for higher kVAR ratings.



Contact Us:

US Toll Free: 866-261-1191

Phone: 937-253-1191

E-mail: sales@stacoenergy.com

www.stacoenergy.com

