RELIABLE CAPACITORS

# POWER FACTOR CORRECTION AND HARMONIC FILTER CAPACITOR CELLS


## WORLDWIDE CAPACITORS

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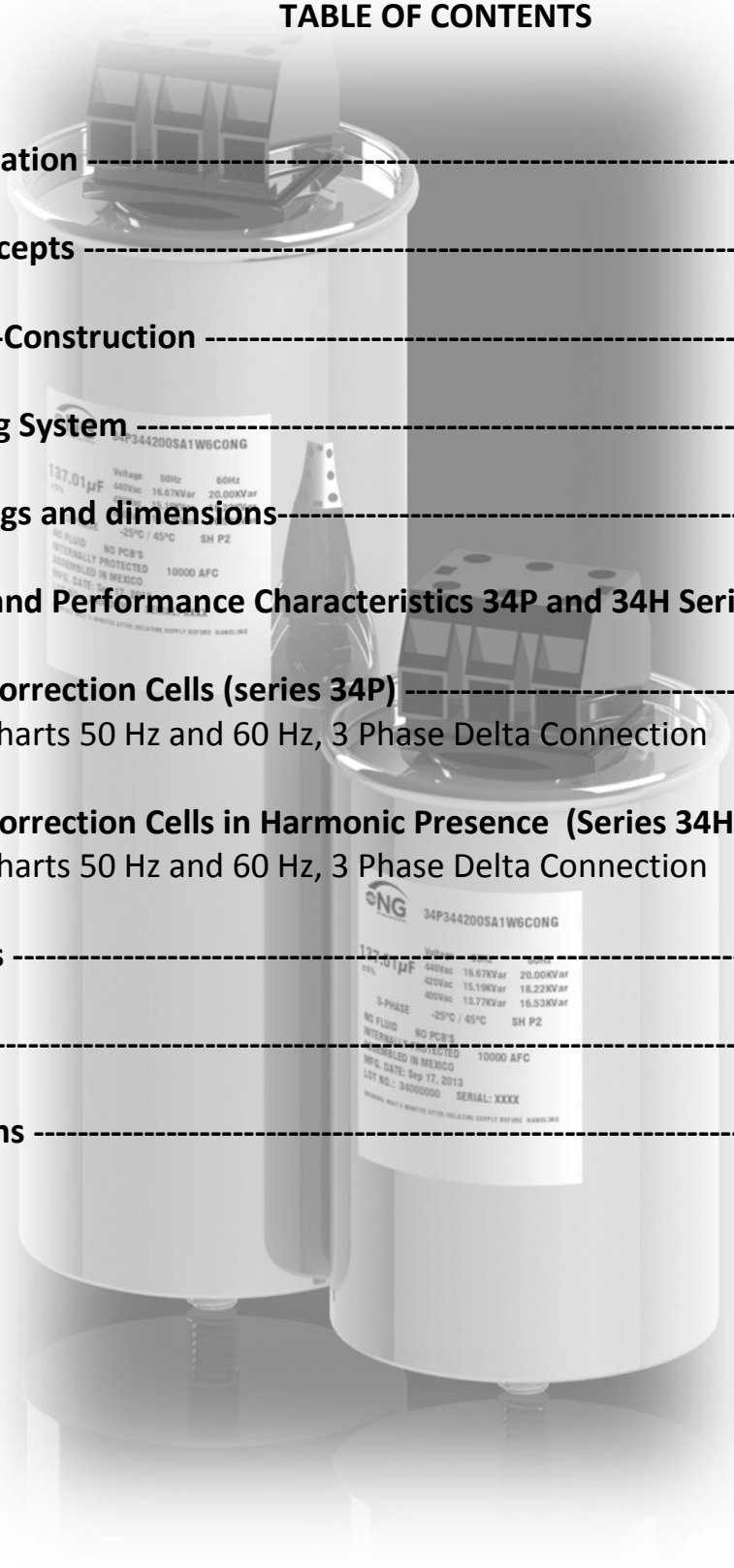




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## GENERAL INFORMATION

### Purpose

The purpose of this catalog is to provide a reference for all NG's standard power factor correction and harmonic filters capacitor cells in round metal cases. Please consult NG sales or customer service for further information at sales@ngm.com.mx. Tel. [52][55]5352-5244.

### Introduction

Over the last few years, the interest in reactive power compensation has been growing, mainly because more and more power companies are adding or increasing penalties for power factor correction efficiency. Moreover, the price of energy is increasing forcing industrial facilities to minimize energy consumption, including reactive power.

The goal of industrial facilities is to minimize reactive power flow in supply and distribution systems, eliminate or minimize the penalty for reactive power and use power more efficiently, resulting in lower power costs. Power companies want their customers to compensate for reactive power in order to produce power more efficiently with the capacity they have which is why penalties are levied for inefficient use of power.

The use of power factor correction capacitors and capacitor banks is one method used to compensate for reactive power. Power factor correction capacitors are the most popular method for compensating reactive power mainly due to economic reasons. Power factor capacitors are inexpensive as compared to other solutions such as; active filters or compensation by means of electric motors.

Adopting a method of power factor improvement will generally compensate for power losses and reduce the current load on the power supply equipment such as; cables, switchgear, transformers, and the generating plant. It is often thought that power factor correction is only financially beneficial in areas that the power company levies penalties for reactive power. However, many losses are not monitored by power companies and thus not properly quantified. Correcting the reactive power in a facility will result in more efficient use of power resulting in lower power bills.

Generally power factor correction is done in two ways.

**1. Individual correction**: Correcting the power at one specific piece of equipment

**2. Group correction**: Correcting the incoming power to a facility or multiple pieces of equipment

Advantages and disadvantages of both these methods are tabulated as follows:

1. **Individual Correction**

Advantages:

- Increased load capabilities of distribution system
- Can be switched off with equipment thus no additional switching is required
- Better voltage regulation
- Capacitor sizing is simple
- Portable with the equipment

Disadvantages:

- Small capacitors cost more per kVAr than larger units
- Economic breakpoint is generally 10HP
- Difficult to install in special application areas like flame proof/increased safety
- Add more equipment for maintenance
- Can damage the equipment if not sized properly

2. **Group correction**

Advantages:

- Increased load capabilities of the service.
- Reduced material costs relative to individual correction
- Easier maintenance than having multiple individual correction devices.
- Automatic sizing of capacitance required thus little risk of damaging the equipment.
- Cost per kVAr is less as larger units can be installed
- Demand management is easy, and PF can be corrected near to unity
- Can be installed in substations and hence suitable for hazardous areas



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Disadvantages

- Switching is required to control amount of capacitance
- Does not reduce cable losses, below the point of correction
- Does not contribute to down line equipment life/efficiency improvement
- Leading power factor on Self Generating plants if not switched properly
- Chances of switching the capacitor loads on power outages
-

**Capacitors also constitute a key component in the various filter solutions reducing harmonic contents**. A non-distorted sinusoidal voltage without harmonics reduces the risk of problems in the form of disturbances in production equipment, metering errors and malfunctions in relay protection. It also extends the service life of connected equipment.

Consumers expect a high quality of supply in order to operate their plants efficiently and generate return on capital. An economic calculation most often shows that a capacitor installation quickly pays for itself. Capacitors play an important role in improving the power quality and NGM's portfolio reflects a wide range of capacitor solutions spanning low voltage levels for utility and industry applications.

Harmonic filters consist of capacitors connected in series with a reactor. Capacitors produce reactive power at the filter's fundamental frequency ant the circuit is designed to achieve the required power factor correction. The inductance of the reactor is chosen so that the filter forms a very low impedance series resonant circuit at the harmonic frequency. This ensures that a high proportion of the harmonics enter the filter. A typical harmonic filter consists of three series resonant circuits tuned to the most common harmonics (5th, 7th and 11th harmonics). The filters are housed in steel cubicles. Each consists of a contactor, thermal over current relay, reactor and capacitors. The unit is generally connected to the fused feeders on the main distribution board.

Nonlinear one-phase loads such as fluorescent illuminators and computers which are connected between phase and neutral are generating third harmonic and multiple of it. All harmonic currents cause both current and voltage distortion. In addition to this third harmonic current accumulate in the neutral wire increasing the risk of overloading and caused magnetic field having frequency of 150 Hz. By filtering third harmonic from the network the above mentioned problems can be eliminated.

3rd harmonic filter consists of capacitor units which are connected in series with reactors. The harmonic filter produces reactive power at fundamental frequency in order to reach the target power factor. The inductance of the reactor has been chosen to create very low impedance series resonance circuit for 3rd harmonic. As a result of this most of 3rd harmonic current can be filtered. The filter cubicle has a contactor, a thermal overload relay, reactors, capacitors and a voltage control relay.



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- Any device with non-linear operating characteristics can produce harmonics in your power system. If you are currently using equipment that can cause harmonics or have experienced harmonic related problems, capacitor reactor or filter bank equipment may be the solution.

## TERMS AND CONCEPTS

For the purposes of this NG Catalogue, the following definitions apply:

**Capacitor element (or element).** Means an indivisible part of a capacitor consisting of electrodes separated by a dielectric; the element may or may not be in a container and may be single-phase or multiphase.

**Capacitor unit (or unit).** An assembly of one or more capacitor elements in the same container with terminals brought out.

**Self-healing capacitor.** A capacitor of which the electrical properties, after local breakdown of the dielectric, are rapidly and essentially restored.

**Capacitor bank (or bank).** Means a complete assembly of capacitor units, including accessories such as bus connectors, discharge devices, fuses, switching devices, and controls, suitable for connection to a circuit.

**Indoor.** Means suitable tor installations only where protection from the weather is provided.

**Discharge device of a capacitor.** A device which may be incorporated in a capacitor, capable of reducing the voltage between the terminals practically to zero, within a given time, after the capacitor has been disconnected from a network.

**Overpressure disconnector for a capacitor.** A disconnecting device designed to switch off the capacitor in the case of abnormal increase of the internal pressure.

**Line terminal.** A terminal intended for connection to a line conductor of a network.

**Rated capacitance of a capacitor ($C_N$).** The capacitance value for which the capacitor has been designed.

**Rated output of a capacitor ($Q_N$).** The reactive power derived from the rated values of capacitance, frequency and voltage.

**Voltage RMS.** Root mean square, also known as the quadratic mean, is a statistical measure of the magnitude of a varying quantity It is especially useful when variants are positive and negative, e.g., sinusoids. The RMS value of a set of values (or a continuous-time waveform is the square root of the arithmetic mean (average of the squares of the original values (or the square of the function that defines the continuous waveform).

$$V_{RMS} = \frac{V_P}{\sqrt{2}}, \quad Where\, V_P \text{ represents the peak volta ge}$$



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**Rated voltage of a capacitor ($U_N$).** Means the r.m.s value of the voltage between terminals as indicated on the nameplate.

**Rated frequency of a capacitor ($f_N$).** The frequency for which the capacitor has been designed.

**Rated current of a capacitor ($I_N$).** The r.m.s value of the alternating current for which the capacitor has been designed.

**Capacitor losses.** The active power dissipated in the capacitor.

Tangent of the loss angle (tan δ) of a capacitor. The ratio between the equivalent series resistance and the capacitive reactance of the capacitor at specified sinusoidal alternating voltage and frequency

**Maximum permissible A.C.** Voltage of a capacitor. The maximum r.m.s alternating voltage which the capacitor can sustain for a given time in specified conditions.

**Maximum permissible A.C**. Current of a capacitor. The maximum r.m.s alternating current which the capacitor can sustain for a given time in specified conditions.

**Ambient air temperature.** The temperature of the air at the proposed location of the capacitor.

**Residual voltage.** The voltage remaining on the terminals of a capacitor at a certain time following disconnection.

## CAPACITOR CELLS-CONSTRUCTION

NG Cells are non-polarized capacitors with an insulating plastic film as the dielectric wound into a cylindrical winding. The film capacitors is metallized with aluminum and zinc, applied on one side of the plastic film. Several capacitor elements are interconnected in parallel for single phase and delta for 3 phases.

Metallized film capacitors offer self-healing properties. Dielectric breakdowns or shorts between the electrodes do not destroy the component.

A key advantage of every film capacitor's internal construction is direct contact to the electrodes on both ends of the winding. This contact keeps all current paths very short. The design behaves like a large number of individual capacitors connected in parallel, thus reducing the internal Ohmic losses (ESR) and parasitic inductance (ESL). Which makes them suitable for applications with high surge currents (snubbers) and for AC power applications, or for applications at higher frequencies.

Metalized polypropylene capacitors manufactured by Nueva Generacion Manufacturas (NG) offer improved performance and proven reliability in applications requiring power factor correction, harmonic filtering or power electronic circuits.


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Metallized polypropylene film is used for its ability to operate at low temperatures and minimal loss of capacitance over the life of the cell. Encapsulated by a thermal setting polymer resin, excellent heat dissipation is achieved. In the event of a fault, single or three-phase pressure sensitive interrupters disconnect all three phases effectively taking the capacitor out of the circuit.

| | |
|---|---|
| Dielectric: | Polypropylene Film |
| Case: | Aluminum, stud at bottom of can is available |
| Cover: | Aluminum or Steel |
| Potting: | Wet, Dry and Nitrogen Type |
| Terminals: | Sigut (Block terminals) and Quick Connections |
| Phases: | Single and triple, Triple phases are Delta connection. |
| Internal Protection: | Pressure Sensitive Interrupter |



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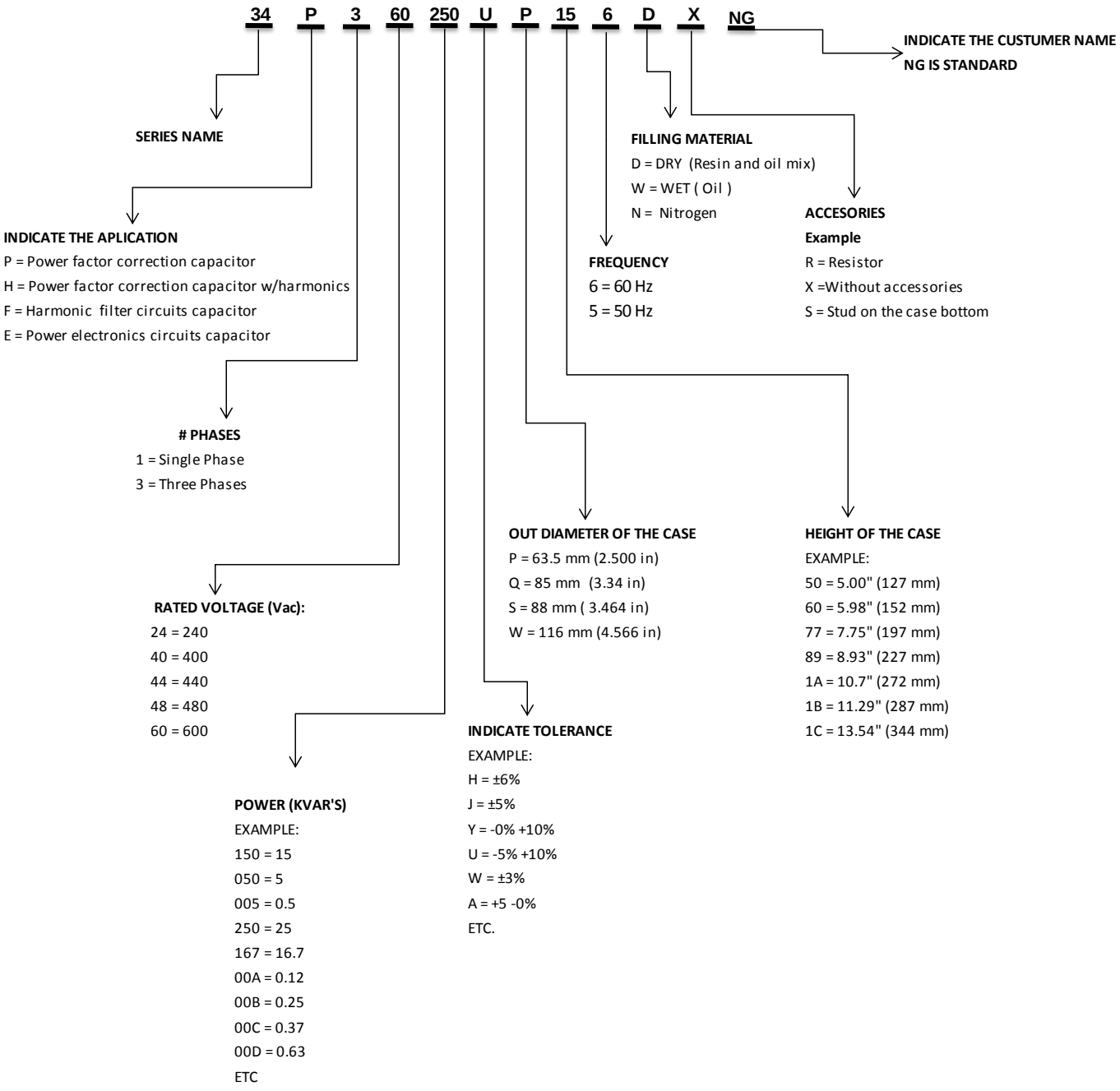
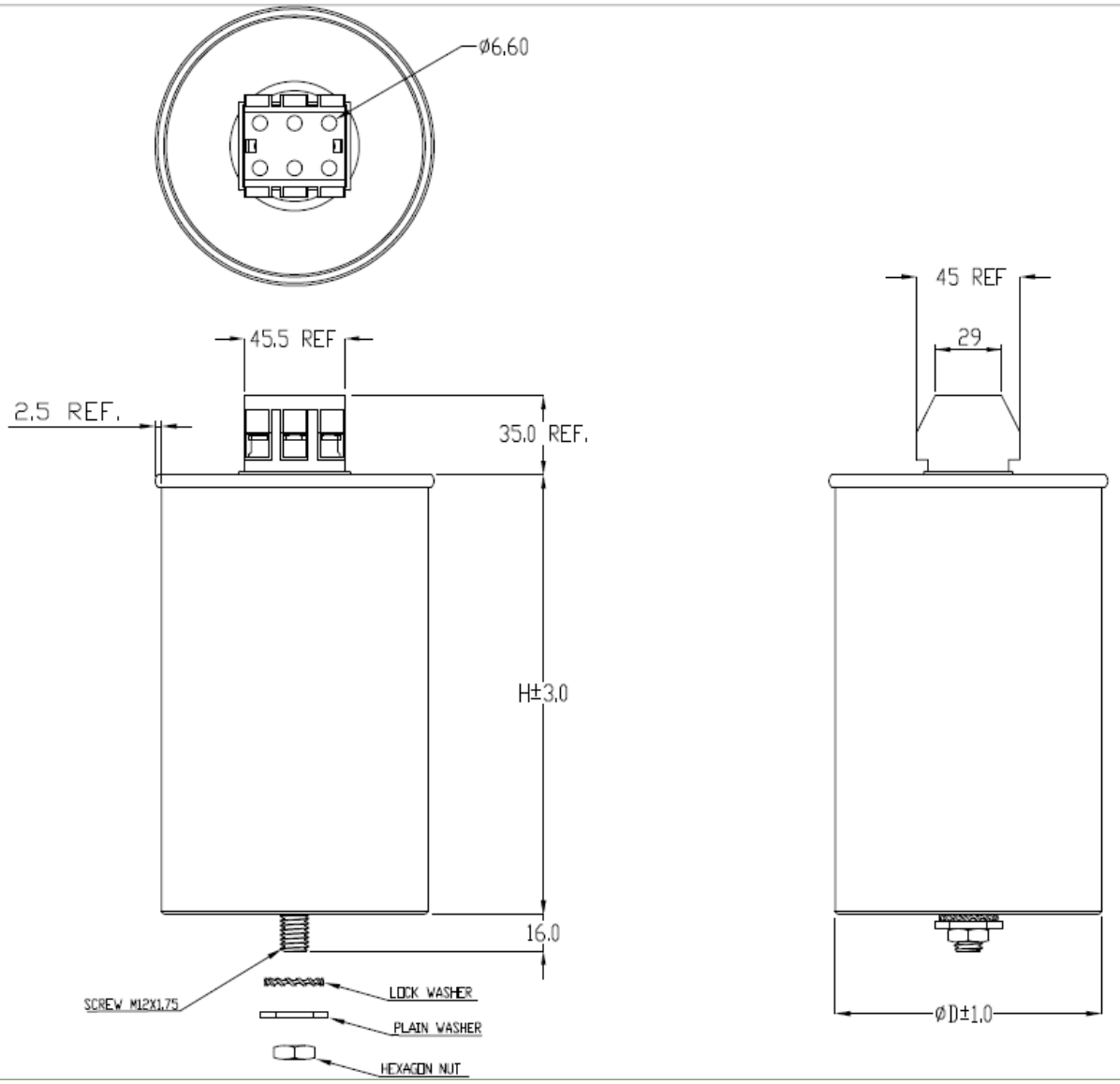
## PART NUMBERING SYSTEM



## OUTLINE DRAWINGS AND DIMENSIONS




| Part Numbering (Out diameter) | Diameter Case (D) | Height (H) | Terminals |
|---|---|---|---|
| P | 63.5 mm (2.500”) | 3.75 to 5 in (98 to 127 mm) | Double Quick Connector ¼” |
| S | 88.0 mm (3.464”) | 152 to 344 mm (5.98 to 13.54”) | Sigut |
| W | 116.0 mm (4.566”) | 152 to 344 mm (5.98 to 13.54”) | Sigut |

**Screw on the bottom case and additional accessories upon request, such as mounting brackets, plastic sleeve, individual box, etc.**



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## SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS 34P AND 34H SERIES

| Parameter | 34P Series | 34H Series |
|---|---|---|
| Rated voltage | Up to 600 [Vac] | Up to 600 [Vac] |
| Power | 0.5 - 30 KVAr @60 Hz, 0.5 - 24 KVAr @50 Hz | 0.5 - 30 KVAr @60 Hz, 0.5 - 24 KVAr @50 Hz |
| Rated frequency | 60 Hz | 60 Hz |
| Capacitance tolerance std. | -5 + 10% | -5 + 10% |
| Temperature Class | -40 / D max. temp 55°C | -40 / D max. temp 55°C |
| Tangent of the loss angle | < 0.5 [W/KVAr] 60Hz, 25°C | < 0.5 [W/KVAr] 60Hz, 25°C |
| Maximum permissible A.C. voltage | Vn + 10% up to 8h daily / Vn+15% up to 30min daily / Vn+20% up to 5min daily / Vn+30% up to 1min daily | Vn + 10% up to 8h daily / Vn+15% up to 30min daily / Vn+20% up to 5min daily / Vn+30% up to 1min daily |
| Maximum Permissible A.C. current (including combined effects oh harmonics, over voltages and capacitance tolerance | 1.3 In | 1.5 In |
| Discharge device | On IEC 60831 | On IEC 60831 |
| Pressure interrupter device | On UL 810 / 10000AFC | On UL 810 / 10000AFC |
| Dielectric Strength Terminal to Terminal | 2.15Un for 10s | 2.15Un for 10s |
| Dielectric Strength Terminal to Case | 2VN + 2000 Vac or 3000 Vac whichever is the higher for 10 s | |
| Impregnation | Oil, Gel or resin and nitrogen. No PCB's | Gel or resin and nitrogen. No PCB's |
| Mounting | Vertical / Horizontal Position. It should not be mounted facedown | |
| Mounting Accesories | Lock Washer/Plain Washer/Hexagonal Nut | |
| Connection | Quick connector ¼ for diameter 2.5 in (P) and Sigut for diameter bigger than 2.5". | Quick connector ¼ for diameter 2.5 in (P) and Sigut for diameter bigger than 2.5". |
| Service life | >100,000 hours | >100,000 hours |
| Standard | cUl - Capacitor certified for Canada (CYWT8) on CSA-C22.2 No.190<br>UL - Capacitor (CYWT2) - on ANSI UL810<br>IEC-60831-1/2 | |
| International directives | RoHS2 and REACH | RoHS2 and REACH |
| Storage Temperature | -40 to 85 °C | -40 to 85 °C |
| Material Case / Cover | Aluminium | |
| Dielectric | Polypropylene SH | Polypropylene SH |
| UL file | E229850 | |



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## POWER FACTOR CORRECTION CELLS (SERIES 34P)

**-Size Charts 50 Hz and 60 Hz, 3 Phase Delta Connection**

### 240 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P324010UP386DRNG | 63.5 | 98 | 46.1 |
| 1.25 | 1.5 | 34P324015UP506DRNG | 63.5 | 127 | 69.1 |
| 1.67 | 2.0 | 34P324020UP506DRNG | 63.5 | 127 | 92.1 |
| 2.08 | 2.5 | 34P324025UP506DRNG | 63.5 | 127 | 115.1 |
| 2.50 | 3.0 | 34P324030UP506DRNG | 63.5 | 127 | 138.2 |
| 2.92 | 3.5 | 34P324035US596DRNG | 88 | 152 | 161.2 |
| 3.33 | 4.0 | 34P324040US596DRNG | 88 | 152 | 184.2 |
| 3.75 | 4.5 | 34P324045US596DRNG | 88 | 152 | 207.2 |
| 4.17 | 5.0 | 34P324050US596DRNG | 88 | 152 | 230.3 |
| 4.58 | 5.5 | 34P324055US596DRNG | 88 | 152 | 253.3 |
| 5.00 | 6.0 | 34P324060US596DRNG | 88 | 152 | 276.3 |
| 5.42 | 6.5 | 34P324065US776DRNG | 88 | 197 | 299.3 |
| 5.83 | 7.0 | 34P324070US776DRNG | 88 | 197 | 322.4 |
| 6.25 | 7.5 | 34P324075US776DRNG | 88 | 197 | 345.4 |
| 6.67 | 8.0 | 34P324080US776DRNG | 88 | 197 | 368.4 |
| 7.08 | 8.5 | 34P324085US776DRNG | 88 | 197 | 391.4 |
| 7.50 | 9.0 | 34P324090US776DRNG | 88 | 197 | 414.5 |
| 7.92 | 9.5 | 34P324095US776DRNG | 88 | 197 | 437.5 |
| 8.33 | 10.0 | 34P324100US896DRNG | 88 | 227 | 460.5 |
| 8.75 | 10.5 | 34P324105US896DRNG | 88 | 227 | 483.5 |
| 9.17 | 11.0 | 34P324110US896DRNG | 88 | 227 | 506.6 |
| 9.58 | 11.5 | 34P324115US896DRNG | 88 | 227 | 529.6 |
| 10.00 | 12 | 34P324120US896DRNG | 88 | 227 | 552.6 |
| 10.42 | 12.5 | 34P324125US1A6DRNG | 88 | 272 | 575.6 |
| 10.83 | 13 | 34P324130US1A6DRNG | 88 | 272 | 598.7 |
| 11.25 | 13.5 | 34P324135US1A6DRNG | 88 | 272 | 621.7 |
| 11.67 | 14.0 | 34P324140US1A6DRNG | 88 | 272 | 644.7 |
| 12.08 | 14.5 | 34P324145US1A6DRNG | 88 | 272 | 667.7 |
| 12.50 | 15 | 34P324150US1A6DRNG | 88 | 272 | 690.8 |
| 12.92 | 15.5 | 34P324155US1A6DRNG | 88 | 272 | 713.8 |
| 13.33 | 16 | 34P324160US1A6DRNG | 88 | 272 | 736.8 |
| 13.75 | 16.5 | 34P324165UW776DRNG | 116 | 197 | 759.9 |

## 300 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P330010UP386DRNG | 63.5 | 98 | 29.5 |
| 1.25 | 1.5 | 34P330015UP386DRNG | 63.5 | 98 | 44.2 |
| 1.67 | 2.0 | 34P330020UP386DRNG | 63.5 | 98 | 58.9 |
| 2.08 | 2.5 | 34P330025UP506DRNG | 63.5 | 127 | 73.7 |
| 2.50 | 3.0 | 34P330030UP506DRNG | 63.5 | 127 | 88.4 |
| 2.92 | 3.5 | 34P330035UP506DRNG | 63.5 | 127 | 103.2 |
| 3.33 | 4.0 | 34P330040UP506DRNG | 63.5 | 127 | 117.9 |
| 3.75 | 4.5 | 34P330045UP506DRNG | 63.5 | 127 | 132.6 |
| 4.17 | 5.0 | 34P330050US596DRNG | 88 | 152 | 147.4 |
| 4.58 | 5.5 | 34P330055US596DRNG | 88 | 152 | 162.1 |
| 5.00 | 6.0 | 34P330060US596DRNG | 88 | 152 | 176.8 |
| 5.42 | 6.5 | 34P330065US596DRNG | 88 | 152 | 191.6 |
| 5.83 | 7.0 | 34P330070US596DRNG | 88 | 152 | 206.3 |
| 6.25 | 7.5 | 34P330075US596DRNG | 88 | 152 | 221.0 |
| 6.67 | 8.0 | 34P330080US596DRNG | 88 | 152 | 235.8 |
| 7.08 | 8.5 | 34P330085US596DRNG | 88 | 152 | 250.5 |
| 7.50 | 9.0 | 34P330090US596DRNG | 88 | 152 | 265.3 |
| 7.92 | 9.5 | 34P330095US596DRNG | 88 | 152 | 280.0 |
| 8.33 | 10.0 | 34P330100US776DRNG | 88 | 197 | 294.7 |
| 8.75 | 10.5 | 34P330105US776DRNG | 88 | 197 | 309.5 |
| 9.17 | 11.0 | 34P330110US776DRNG | 88 | 197 | 324.2 |
| 9.58 | 11.5 | 34P330115US776DRNG | 88 | 197 | 338.9 |
| 10.00 | 12 | 34P330120US776DRNG | 88 | 197 | 353.7 |
| 10.42 | 12.5 | 34P330125US776DRNG | 88 | 197 | 368.4 |
| 10.83 | 13 | 34P330130US776DRNG | 88 | 197 | 383.1 |
| 11.25 | 13.5 | 34P330135US776DRNG | 88 | 197 | 397.9 |
| 11.67 | 14.0 | 34P330140US776DRNG | 88 | 197 | 412.6 |
| 12.08 | 14.5 | 34P330145US776DRNG | 88 | 197 | 427.4 |
| 12.50 | 15 | 34P330150US776DRNG | 88 | 197 | 442.1 |
| 12.92 | 15.5 | 34P330155US896DRNG | 88 | 227 | 456.8 |
| 13.33 | 16 | 34P330160US896DRNG | 88 | 227 | 471.6 |
| 13.75 | 16.5 | 34P330165US896DRNG | 88 | 227 | 486.3 |
| 14.17 | 17.0 | 34P330170US896DRNG | 88 | 227 | 501.0 |
| 14.58 | 17.5 | 34P330175US896DRNG | 88 | 227 | 515.8 |
| 15.00 | 18 | 34P330180US896DRNG | 88 | 227 | 530.5 |



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| | | | | | |
|---|---|---|---|---|---|
| 15.42 | 18.5 | 34P330185US896DRNG | 88 | 227 | 545.3 |
| 15.83 | 19 | 34P330190US896DRNG | 88 | 227 | 560.0 |
| 16.25 | 19.5 | 34P330195US1A6DRNG | 88 | 272 | 574.7 |
| 16.67 | 20 | 34P330200US1A6DRNG | 88 | 272 | 589.5 |
| 17.08 | 20.5 | 34P330205US1A6DRNG | 88 | 272 | 604.2 |

## 370 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P337010UP386DRNG | 63.5 | 98 | 19.4 |
| 1.25 | 1.5 | 34P337015UP386DRNG | 63.5 | 98 | 29.1 |
| 1.67 | 2.0 | 34P337020UP386DRNG | 63.5 | 98 | 38.8 |
| 2.08 | 2.5 | 34P337025UP506DRNG | 63.5 | 127 | 48.4 |
| 2.50 | 3.0 | 34P337030UP506DRNG | 63.5 | 127 | 58.1 |
| 2.92 | 3.5 | 34P337035UP506DRNG | 63.5 | 127 | 67.8 |
| 3.33 | 4.0 | 34P337040UP506DRNG | 63.5 | 127 | 77.5 |
| 3.75 | 4.5 | 34P337045UP506DRNG | 63.5 | 127 | 87.2 |
| 4.17 | 5.0 | 34P337050US596DRNG | 88 | 152 | 96.9 |
| 4.58 | 5.5 | 34P337055US596DRNG | 88 | 152 | 106.6 |
| 5.00 | 6.0 | 34P337060US596DRNG | 88 | 152 | 116.3 |
| 5.42 | 6.5 | 34P337065US596DRNG | 88 | 152 | 125.9 |
| 5.83 | 7.0 | 34P337070US596DRNG | 88 | 152 | 135.6 |
| 6.25 | 7.5 | 34P337075US596DRNG | 88 | 152 | 145.3 |
| 6.67 | 8.0 | 34P337080US596DRNG | 88 | 152 | 155.0 |
| 7.08 | 8.5 | 34P337085US596DRNG | 88 | 152 | 164.7 |
| 7.50 | 9.0 | 34P337090US596DRNG | 88 | 152 | 174.4 |
| 7.92 | 9.5 | 34P337095US596DRNG | 88 | 152 | 184.1 |
| 8.33 | 10.0 | 34P337100US776DRNG | 88 | 197 | 193.8 |
| 8.75 | 10.5 | 34P337105US776DRNG | 88 | 197 | 203.4 |
| 9.17 | 11.0 | 34P337110US776DRNG | 88 | 197 | 213.1 |
| 9.58 | 11.5 | 34P337115US776DRNG | 88 | 197 | 222.8 |
| 10.00 | 12 | 34P337120US776DRNG | 88 | 197 | 232.5 |
| 10.42 | 12.5 | 34P337125US776DRNG | 88 | 197 | 242.2 |
| 10.83 | 13 | 34P337130US776DRNG | 88 | 197 | 251.9 |
| 11.25 | 13.5 | 34P337135US776DRNG | 88 | 197 | 261.6 |
| 11.67 | 14.0 | 34P337140US776DRNG | 88 | 197 | 271.3 |
| 12.08 | 14.5 | 34P337145US776DRNG | 88 | 197 | 281.0 |
| 12.50 | 15 | 34P337150US776DRNG | 88 | 197 | 290.6 |



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| | | | | | |
|---|---|---|---|---|---|
| 12.92 | 15.5 | 34P337155US776DRNG | 88 | 197 | 300.3 |
| 13.33 | 16 | 34P337160US896DRNG | 88 | 227 | 310.0 |
| 13.75 | 16.5 | 34P337165US896DRNG | 88 | 227 | 319.7 |
| 14.17 | 17.0 | 34P337170US896DRNG | 88 | 227 | 329.4 |
| 14.58 | 17.5 | 34P337175US896DRNG | 88 | 227 | 339.1 |
| 15.00 | 18 | 34P337180US896DRNG | 88 | 227 | 348.8 |
| 15.42 | 18.5 | 34P337185US896DRNG | 88 | 227 | 358.5 |
| 15.83 | 19 | 34P337190US896DRNG | 88 | 227 | 368.1 |
| 16.25 | 19.5 | 34P337195US896DRNG | 88 | 227 | 377.8 |
| 16.67 | 20.0 | 34P337200US896DRNG | 88 | 227 | 387.5 |
| 17.08 | 20.5 | 34P337205US1A6DRNG | 88 | 272 | 397.2 |
| 17.50 | 21 | 34P337210US1A6DRNG | 88 | 272 | 406.9 |
| 17.92 | 21.5 | 34P337215US1A6DRNG | 88 | 272 | 416.6 |
| 18.33 | 22 | 34P337220US1A6DRNG | 88 | 272 | 426.3 |
| 18.75 | 22.5 | 34P337225US1A6DRNG | 88 | 272 | 436.0 |
| 19.17 | 23 | 34P337230US1A6DRNG | 88 | 272 | 445.6 |
| 19.58 | 23.5 | 34P337235US1A6DRNG | 88 | 272 | 455.3 |
| 20.00 | 24 | 34P337240US1A6DRNG | 88 | 272 | 465.0 |
| 20.42 | 24.5 | 34P337245US1A6DRNG | 88 | 272 | 474.7 |
| 20.83 | 25 | 34P337250US1A6DRNG | 88 | 272 | 484.4 |
| 21.25 | 25.5 | 34P337255US1A6DRNG | 88 | 272 | 494.1 |

## 400 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P340010UP386DRNG | 63.5 | 98 | 16.6 |
| 1.25 | 1.5 | 34P340015UP386DRNG | 63.5 | 98 | 24.9 |
| 1.67 | 2.0 | 34P340020UP506DRNG | 63.5 | 127 | 33.2 |
| 2.08 | 2.5 | 34P340025UP506DRNG | 63.5 | 127 | 41.4 |
| 2.50 | 3.0 | 34P340030UP506DRNG | 63.5 | 127 | 49.7 |
| 2.92 | 3.5 | 34P340035UP506DRNG | 63.5 | 127 | 58.0 |
| 3.33 | 4.0 | 34P340040UP506DRNG | 63.5 | 127 | 66.3 |
| 3.75 | 4.5 | 34P340045US596DRNG | 88 | 152 | 74.6 |
| 4.17 | 5.0 | 34P340050US596DRNG | 88 | 152 | 82.9 |
| 4.58 | 5.5 | 34P340055US596DRNG | 88 | 152 | 91.2 |
| 5.00 | 6.0 | 34P340060US596DRNG | 88 | 152 | 99.5 |
| 5.42 | 6.5 | 34P340065US596DRNG | 88 | 152 | 107.8 |
| 5.83 | 7.0 | 34P340070US596DRNG | 88 | 152 | 116.1 |
| 6.25 | 7.5 | 34P340075US596DRNG | 88 | 152 | 124.3 |



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| | | | | | |
|---|---|---|---|---|---|
| 6.67 | 8.0 | 34P340080US596DRNG | 88 | 152 | 132.6 |
| 7.08 | 8.5 | 34P340085US776DRNG | 88 | 197 | 140.9 |
| 7.50 | 9.0 | 34P340090US776DRNG | 88 | 197 | 149.2 |
| 7.92 | 9.5 | 34P340095US776DRNG | 88 | 197 | 157.5 |
| 8.33 | 10.0 | 34P340100US776DRNG | 88 | 197 | 165.8 |
| 8.75 | 10.5 | 34P340105US776DRNG | 88 | 197 | 174.1 |
| 9.17 | 11.0 | 34P340110US776DRNG | 88 | 197 | 182.4 |
| 9.58 | 11.5 | 34P340115US776DRNG | 88 | 197 | 190.7 |
| 10.00 | 12 | 34P340120US776DRNG | 88 | 197 | 198.9 |
| 10.42 | 12.5 | 34P340125US776DRNG | 88 | 197 | 207.2 |
| 10.83 | 13 | 34P340130US776DRNG | 88 | 197 | 215.5 |
| 11.25 | 13.5 | 34P340135US776DRNG | 88 | 197 | 223.8 |
| 11.67 | 14.0 | 34P340140US896DRNG | 88 | 227 | 232.1 |
| 12.08 | 14.5 | 34P340145US896DRNG | 88 | 227 | 240.4 |
| 12.50 | 15 | 34P340150US896DRNG | 88 | 227 | 248.7 |
| 12.92 | 15.5 | 34P340155US896DRNG | 88 | 227 | 257.0 |
| 13.33 | 16 | 34P340160US896DRNG | 88 | 227 | 265.3 |
| 13.75 | 16.5 | 34P340165US896DRNG | 88 | 227 | 273.5 |
| 14.17 | 17.0 | 34P340170US896DRNG | 88 | 227 | 281.8 |
| 14.58 | 17.5 | 34P340175US1A6DRNG | 88 | 272 | 290.1 |
| 15.00 | 18 | 34P340180US1A6DRNG | 88 | 272 | 298.4 |
| 15.42 | 18.5 | 34P340185US1A6DRNG | 88 | 272 | 306.7 |
| 15.83 | 19 | 34P340190US1A6DRNG | 88 | 272 | 315.0 |
| 16.25 | 19.5 | 34P340195US1A6DRNG | 88 | 272 | 323.3 |
| 16.67 | 20.0 | 34P340200US1A6DRNG | 88 | 272 | 331.6 |
| 17.08 | 20.5 | 34P340205US1A6DRNG | 88 | 272 | 339.9 |
| 17.50 | 21 | 34P340210US1A6DRNG | 88 | 272 | 348.2 |
| 17.92 | 21.5 | 34P340215US1A6DRNG | 88 | 272 | 356.4 |
| 18.33 | 22 | 34P340220US1A6DRNG | 88 | 272 | 364.7 |
| 18.75 | 22.5 | 34P340225US1A6DRNG | 88 | 272 | 373.0 |
| 19.17 | 23.0 | 34P340230UW776DRNG | 116 | 197 | 381.3 |
| 19.58 | 23.5 | 34P340235UW776DRNG | 116 | 197 | 389.6 |
| 20.00 | 24 | 34P340240UW776DRNG | 116 | 197 | 397.9 |
| 20.42 | 24.5 | 34P340245UW776DRNG | 116 | 197 | 406.2 |
| 20.83 | 25.0 | 34P340250UW896DRNG | 116 | 227 | 414.5 |
| 21.25 | 25.5 | 34P340255UW896DRNG | 116 | 227 | 422.8 |
| 21.67 | 26.0 | 34P340260UW896DRNG | 116 | 227 | 431.0 |
| 22.08 | 26.5 | 34P340265UW896DRNG | 116 | 227 | 439.3 |
| 22.50 | 27.0 | 34P340270UW896DRNG | 116 | 227 | 447.6 |
| 22.92 | 27.5 | 34P340275UW896DRNG | 116 | 227 | 455.9 |



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## 440 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P344010UP386DRNG | 63.5 | 98 | 13.7 |
| 1.25 | 1.5 | 34P344015UP386DRNG | 63.5 | 98 | 20.6 |
| 1.67 | 2.0 | 34P344020UP386DRNG | 63.5 | 98 | 27.4 |
| 2.08 | 2.5 | 34P344025UP506DRNG | 63.5 | 127 | 34.3 |
| 2.50 | 3.0 | 34P344030UP506DRNG | 63.5 | 127 | 41.1 |
| 2.92 | 3.5 | 34P344035UP506DRNG | 63.5 | 127 | 48.0 |
| 3.33 | 4.0 | 34P344040UP506DRNG | 63.5 | 127 | 54.8 |
| 3.75 | 4.5 | 34P344045UP506DRNG | 63.5 | 127 | 61.7 |
| 4.17 | 5.0 | 34P344050UP506DRNG | 63.5 | 127 | 68.5 |
| 4.58 | 5.5 | 34P344055US596DRNG | 88 | 152 | 75.4 |
| 5.00 | 6.0 | 34P344060US596DRNG | 88 | 152 | 82.2 |
| 5.42 | 6.5 | 34P344065US596DRNG | 88 | 152 | 89.1 |
| 5.83 | 7.0 | 34P344070US596DRNG | 88 | 152 | 95.9 |
| 6.25 | 7.5 | 34P344075US596DRNG | 88 | 152 | 102.8 |
| 6.67 | 8.0 | 34P344080US596DRNG | 88 | 152 | 109.6 |
| 7.08 | 8.5 | 34P344085US596DRNG | 88 | 152 | 116.5 |
| 7.50 | 9.0 | 34P344090US596DRNG | 88 | 152 | 123.3 |
| 7.92 | 9.5 | 34P344095US596DRNG | 88 | 152 | 130.2 |
| 8.33 | 10.0 | 34P344100US596DRNG | 88 | 152 | 137.0 |
| 8.75 | 10.5 | 34P344105US776DRNG | 88 | 197 | 143.9 |
| 9.17 | 11.0 | 34P344110US776DRNG | 88 | 197 | 150.7 |
| 9.58 | 11.5 | 34P344115US776DRNG | 88 | 197 | 157.6 |
| 10.00 | 12 | 34P344120US776DRNG | 88 | 197 | 164.4 |
| 10.42 | 12.5 | 34P344125US776DRNG | 88 | 197 | 171.3 |
| 10.83 | 13 | 34P344130US776DRNG | 88 | 197 | 178.1 |
| 11.25 | 13.5 | 34P344135US776DRNG | 88 | 197 | 185.0 |
| 11.67 | 14.0 | 34P344140US776DRNG | 88 | 197 | 191.8 |
| 12.08 | 14.5 | 34P344145US776DRNG | 88 | 197 | 198.7 |
| 12.50 | 15 | 34P344150US776DRNG | 88 | 197 | 205.5 |
| 12.92 | 15.5 | 34P344155US776DRNG | 88 | 197 | 212.4 |
| 13.33 | 16 | 34P344160US776DRNG | 88 | 197 | 219.2 |
| 13.75 | 16.5 | 34P344165US776DRNG | 88 | 197 | 226.1 |
| 14.17 | 17.0 | 34P344170US896DRNG | 88 | 227 | 232.9 |
| 14.58 | 17.5 | 34P344175US896DRNG | 88 | 227 | 239.8 |
| 15.00 | 18 | 34P344180US896DRNG | 88 | 227 | 246.6 |



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| | | | | | |
|---|---|---|---|---|---|
| 15.42 | 18.5 | 34P344185US896DRNG | 88 | 227 | 253.5 |
| 15.83 | 19 | 34P344190US896DRNG | 88 | 227 | 260.3 |
| 16.25 | 19.5 | 34P344195US896DRNG | 88 | 227 | 267.2 |
| 16.67 | 20.0 | 34P344200US896DRNG | 88 | 227 | 274.0 |
| 17.08 | 20.5 | 34P344205US896DRNG | 88 | 227 | 280.9 |
| 17.50 | 21 | 34P344210US1A6DRNG | 88 | 272 | 287.7 |
| 17.92 | 21.5 | 34P344215US1A6DRNG | 88 | 272 | 294.6 |
| 18.33 | 22 | 34P344220US1A6DRNG | 88 | 272 | 301.4 |
| 18.75 | 22.5 | 34P344225US1A6DRNG | 88 | 272 | 308.3 |
| 19.17 | 23.0 | 34P344230US1A6DRNG | 88 | 272 | 315.1 |
| 19.58 | 23.5 | 34P344235US1A6DRNG | 88 | 272 | 322.0 |
| 20.00 | 24 | 34P344240US1A6DRNG | 88 | 272 | 328.8 |
| 20.83 | 25 | 34P344250UW1A6DRNG | 89 | 272 | 342.5 |
| 21.67 | 26 | 34P344260UW1A6DRNG | 90 | 272 | 356.2 |
| 22.50 | 27 | 34P344270UW1A6DRNG | 91 | 272 | 369.9 |
| 23.33 | 28 | 34P344280UW1A6DRNG | 92 | 272 | 383.6 |
| 24.17 | 29 | 34P344290UW1A6DRNG | 93 | 272 | 397.3 |
| 25.00 | 30 | 34P344300UW1A6DRNG | 94 | 272 | 411.0 |
| 25.83 | 31 | 34P344310UW1A6DRNG | 95 | 272 | 424.7 |
| 26.67 | 32 | 34P344320UW1A6DRNG | 96 | 272 | 438.4 |
| 27.50 | 33 | 34P344330UW1A6DRNG | 97 | 272 | 452.1 |
| 28.33 | 34 | 34P344340UW1A6DRNG | 98 | 272 | 465.8 |
| 29.17 | 35 | 34P344350UW1A6DRNG | 99 | 272 | 479.5 |
| 30.00 | 36 | 34P344360UW1A6DRNG | 100 | 272 | 493.2 |

## 480 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P348010UP386DRNG | 63.5 | 98 | 11.5 |
| 1.25 | 1.5 | 34P348015UP386DRNG | 63.5 | 98 | 17.3 |
| 1.67 | 2.0 | 34P348020UP386DRNG | 63.5 | 98 | 23.0 |
| 2.08 | 2.5 | 34P348025UP506DRNG | 63.5 | 127 | 28.8 |
| 2.50 | 3.0 | 34P348030UP506DRNG | 63.5 | 127 | 34.5 |
| 2.92 | 3.5 | 34P348035UP506DRNG | 63.5 | 127 | 40.3 |
| 3.33 | 4.0 | 34P348040UP506DRNG | 63.5 | 127 | 46.1 |
| 3.75 | 4.5 | 34P348045UP506DRNG | 63.5 | 127 | 51.8 |
| 4.17 | 5.0 | 34P348050US596DRNG | 88 | 152 | 57.6 |
| 4.58 | 5.5 | 34P348055US596DRNG | 88 | 152 | 63.3 |

| | | | | | |
|---|---|---|---|---|---|
| 5.00 | 6.0 | 34P348060US596DRNG | 88 | 152 | 69.1 |
| 5.42 | 6.5 | 34P348065US596DRNG | 88 | 152 | 74.8 |
| 5.83 | 7.0 | 34P348070US596DRNG | 88 | 152 | 80.6 |
| 6.25 | 7.5 | 34P348075US596DRNG | 88 | 152 | 86.3 |
| 6.67 | 8.0 | 34P348080US596DRNG | 88 | 152 | 92.1 |
| 7.08 | 8.5 | 34P348085US596DRNG | 88 | 152 | 97.9 |
| 7.50 | 9.0 | 34P348090US596DRNG | 88 | 152 | 103.6 |
| 7.92 | 9.5 | 34P348095US776DRNG | 88 | 197 | 109.4 |
| 8.33 | 10.0 | 34P348100US776DRNG | 88 | 197 | 115.1 |
| 8.75 | 10.5 | 34P348105US776DRNG | 88 | 197 | 120.9 |
| 9.17 | 11.0 | 34P348110US776DRNG | 88 | 197 | 126.6 |
| 9.58 | 11.5 | 34P348115US776DRNG | 88 | 197 | 132.4 |
| 10.00 | 12 | 34P348120US776DRNG | 88 | 197 | 138.2 |
| 10.42 | 12.5 | 34P348125US776DRNG | 88 | 197 | 143.9 |
| 10.83 | 13 | 34P348130US776DRNG | 88 | 197 | 149.7 |
| 11.25 | 13.5 | 34P348135US776DRNG | 88 | 197 | 155.4 |
| 11.67 | 14.0 | 34P348140US776DRNG | 88 | 197 | 161.2 |
| 12.08 | 14.5 | 34P348145US776DRNG | 88 | 197 | 166.9 |
| 12.50 | 15 | 34P348150US776DRNG | 88 | 197 | 172.7 |
| 12.92 | 15.5 | 34P348155US896DRNG | 88 | 227 | 178.5 |
| 13.33 | 16 | 34P348160US896DRNG | 88 | 227 | 184.2 |
| 13.75 | 16.5 | 34P348165US896DRNG | 88 | 227 | 190.0 |
| 14.17 | 17.0 | 34P348170US896DRNG | 88 | 227 | 195.7 |
| 14.58 | 17.5 | 34P348175US896DRNG | 88 | 227 | 201.5 |
| 15.00 | 18 | 34P348180US896DRNG | 88 | 227 | 207.2 |
| 15.42 | 18.5 | 34P348185US896DRNG | 88 | 227 | 213.0 |
| 15.83 | 19 | 34P348190US1A6DRNG | 88 | 272 | 218.7 |
| 16.25 | 19.5 | 34P348195US1A6DRNG | 88 | 272 | 224.5 |
| 16.67 | 20.0 | 34P348200US1A6DRNG | 88 | 272 | 230.3 |
| 17.08 | 20.5 | 34P348205US1A6DRNG | 88 | 272 | 236.0 |
| 17.50 | 21 | 34P348210US1A6DRNG | 88 | 272 | 241.8 |
| 17.92 | 21.5 | 34P348215US1A6DRNG | 88 | 272 | 247.5 |
| 18.33 | 22 | 34P348220US1A6DRNG | 88 | 272 | 253.3 |
| 18.75 | 22.5 | 34P348225US1A6DRNG | 88 | 272 | 259.0 |
| 19.17 | 23.0 | 34P348230US1A6DRNG | 88 | 272 | 264.8 |
| 19.58 | 23.5 | 34P348235US1A6DRNG | 88 | 272 | 270.6 |
| 20.00 | 24 | 34P348240US1A6DRNG | 88 | 272 | 276.3 |
| 20.42 | 24.5 | 34P348245US1A6DRNG | 88 | 272 | 282.1 |
| 20.83 | 25 | 34P348250UW776DRNG | 116 | 197 | 287.8 |
| 21.25 | 25.5 | 34P348255UW776DRNG | 116 | 197 | 293.6 |
| 21.67 | 26 | 34P348260UW776DRNG | 116 | 197 | 299.3 |
| 22.08 | 26.5 | 34P348265UW776DRNG | 116 | 197 | 305.1 |
| 22.50 | 27 | 34P348270UW776DRNG | 116 | 197 | 310.8 |

| | | | | | |
|---|---|---|---|---|---|
| 22.92 | 27.5 | 34P348275UW896DRNG | 116 | 227 | 316.6 |
| 23.33 | 28 | 34P348280UW896DRNG | 116 | 227 | 322.4 |
| 23.75 | 28.5 | 34P348285UW896DRNG | 116 | 227 | 328.1 |
| 24.17 | 29 | 34P348290UW896DRNG | 116 | 227 | 333.9 |
| 24.58 | 29.5 | 34P348295UW896DRNG | 116 | 227 | 339.6 |
| 25.00 | 30 | 34P348300UW896DRNG | 116 | 227 | 345.4 |

## 525 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34P352010UP386DRNG | 63.5 | 98 | 9.6 |
| 1.25 | 1.5 | 34P352015UP386DRNG | 63.5 | 98 | 14.4 |
| 1.67 | 2.0 | 34P352020UP506DRNG | 63.5 | 127 | 19.2 |
| 2.08 | 2.5 | 34P352025UP506DRNG | 63.5 | 127 | 24.1 |
| 2.50 | 3.0 | 34P352030UP506DRNG | 63.5 | 127 | 28.9 |
| 2.92 | 3.5 | 34P352035UP506DRNG | 63.5 | 127 | 33.7 |
| 3.33 | 4.0 | 34P352040UP506DRNG | 63.5 | 127 | 38.5 |
| 3.75 | 4.5 | 34P352045US596DRNG | 88 | 152 | 43.3 |
| 4.17 | 5.0 | 34P352050US596DRNG | 88 | 152 | 48.1 |
| 4.58 | 5.5 | 34P352055US596DRNG | 88 | 152 | 52.9 |
| 5.00 | 6.0 | 34P352060US596DRNG | 88 | 152 | 57.7 |
| 5.42 | 6.5 | 34P352065US596DRNG | 88 | 152 | 62.6 |
| 5.83 | 7.0 | 34P352070US596DRNG | 88 | 152 | 67.4 |
| 6.25 | 7.5 | 34P352075US596DRNG | 88 | 152 | 72.2 |
| 6.67 | 8.0 | 34P352080US596DRNG | 88 | 152 | 77.0 |
| 7.08 | 8.5 | 34P352085US596DRNG | 88 | 152 | 81.8 |
| 7.50 | 9.0 | 34P352090US776DRNG | 88 | 197 | 86.6 |
| 7.92 | 9.5 | 34P352095US776DRNG | 88 | 197 | 91.4 |
| 8.33 | 10.0 | 34P352100US776DRNG | 88 | 197 | 96.2 |
| 8.75 | 10.5 | 34P352105US776DRNG | 88 | 197 | 101.1 |
| 9.17 | 11.0 | 34P352110US776DRNG | 88 | 197 | 105.9 |
| 9.58 | 11.5 | 34P352115US776DRNG | 88 | 197 | 110.7 |
| 10.00 | 12 | 34P352120US776DRNG | 88 | 197 | 115.5 |
| 10.42 | 12.5 | 34P352125US776DRNG | 88 | 197 | 120.3 |
| 10.83 | 13 | 34P352130US776DRNG | 88 | 197 | 125.1 |
| 11.25 | 13.5 | 34P352135US776DRNG | 88 | 197 | 129.9 |
| 11.67 | 14.0 | 34P352140US776DRNG | 88 | 197 | 134.7 |
| 12.08 | 14.5 | 34P352145US896DRNG | 88 | 227 | 139.5 |

| | | | | | |
|---|---|---|---|---|---|
| 12.50 | 15 | 34P352150US896DRNG | 88 | 227 | 144.4 |
| 12.92 | 15.5 | 34P352155US896DRNG | 88 | 227 | 149.2 |
| 13.33 | 16 | 34P352160US896DRNG | 88 | 227 | 154.0 |
| 13.75 | 16.5 | 34P352165US896DRNG | 88 | 227 | 158.8 |
| 14.17 | 17.0 | 34P352170US896DRNG | 88 | 227 | 163.6 |
| 14.58 | 17.5 | 34P352175US896DRNG | 88 | 227 | 168.4 |
| 15.00 | 18 | 34P352180US1A6DRNG | 88 | 272 | 173.2 |
| 15.42 | 18.5 | 34P352185US1A6DRNG | 88 | 272 | 178.0 |
| 15.83 | 19 | 34P352190US1A6DRNG | 88 | 272 | 182.9 |
| 16.25 | 19.5 | 34P352195US1A6DRNG | 88 | 272 | 187.7 |
| 16.67 | 20.0 | 34P352200US1A6DRNG | 88 | 272 | 192.5 |
| 17.08 | 20.5 | 34P352205US1A6DRNG | 88 | 272 | 197.3 |
| 17.50 | 21 | 34P352210US1A6DRNG | 88 | 272 | 202.1 |
| 17.92 | 21.5 | 34P352215US1A6DRNG | 88 | 272 | 206.9 |
| 18.33 | 22 | 34P352220US1A6DRNG | 88 | 272 | 211.7 |
| 18.75 | 22.5 | 34P352225US1A6DRNG | 88 | 272 | 216.5 |
| 19.17 | 23.0 | 34P352230US1A6DRNG | 88 | 272 | 221.3 |
| 19.58 | 23.5 | 34P352235US1A6DRNG | 88 | 272 | 226.2 |
| 20.00 | 24 | 34P352240UW776DRNG | 116 | 197 | 231.0 |
| 20.42 | 24.5 | 34P352245UW776DRNG | 116 | 197 | 235.8 |
| 20.83 | 25 | 34P352250UW776DRNG | 116 | 197 | 240.6 |
| 21.25 | 25.5 | 34P352255UW776DRNG | 116 | 197 | 245.4 |
| 21.67 | 26 | 34P352260UW896DRNG | 116 | 227 | 250.2 |
| 22.08 | 26.5 | 34P352265UW896DRNG | 116 | 227 | 255.0 |
| 22.50 | 27 | 34P352270UW896DRNG | 116 | 227 | 259.8 |
| 22.92 | 27.5 | 34P352275UW896DRNG | 116 | 227 | 264.7 |
| 23.33 | 28 | 34P352280UW896DRNG | 116 | 227 | 269.5 |
| 23.75 | 28.5 | 34P352285UW896DRNG | 116 | 227 | 274.3 |
| 24.17 | 29 | 34P352290UW896DRNG | 116 | 227 | 279.1 |
| 24.58 | 29.5 | 34P352295UW896DRNG | 116 | 227 | 283.9 |
| 25.00 | 30 | 34P352300UW896DRNG | 116 | 227 | 288.7 |

## 600 Vac, 3 Phase Series 34P. Power Factor Correction Cells

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 1.25 | 1.5 | 34P360015UP386DRNG | 63.5 | 98 | 11.1 |
| 1.67 | 2.0 | 34P360020UP386DRNG | 63.5 | 98 | 14.7 |
| 2.08 | 2.5 | 34P360025UP506DRNG | 63.5 | 127 | 18.4 |
| 2.50 | 3.0 | 34P360030UP506DRNG | 63.5 | 127 | 22.1 |

| | | | | | |
|---|---|---|---|---|---|
| 2.92 | 3.5 | 34P360035UP506DRNG | 63.5 | 127 | 25.8 |
| 3.33 | 4.0 | 34P360040UP506DRNG | 63.5 | 127 | 29.5 |
| 3.75 | 4.5 | 34P360045UP506DRNG | 63.5 | 127 | 33.2 |
| 4.17 | 5.0 | 34P360050US596DRNG | 88 | 152 | 36.8 |
| 4.58 | 5.5 | 34P360055US596DRNG | 88 | 152 | 40.5 |
| 5.00 | 6.0 | 34P360060US596DRNG | 88 | 152 | 44.2 |
| 5.42 | 6.5 | 34P360065US596DRNG | 88 | 152 | 47.9 |
| 5.83 | 7.0 | 34P360070US596DRNG | 88 | 152 | 51.6 |
| 6.25 | 7.5 | 34P360075US596DRNG | 88 | 152 | 55.3 |
| 6.67 | 8.0 | 34P360080US596DRNG | 88 | 152 | 58.9 |
| 7.08 | 8.5 | 34P360085US596DRNG | 88 | 152 | 62.6 |
| 7.50 | 9.0 | 34P360090US596DRNG | 88 | 152 | 66.3 |
| 7.92 | 9.5 | 34P360095US776DRNG | 88 | 197 | 70.0 |
| 8.33 | 10.0 | 34P360100US776DRNG | 88 | 197 | 73.7 |
| 8.75 | 10.5 | 34P360105US776DRNG | 88 | 197 | 77.4 |
| 9.17 | 11.0 | 34P360110US776DRNG | 88 | 197 | 81.1 |
| 9.58 | 11.5 | 34P360115US776DRNG | 88 | 197 | 84.7 |
| 10.00 | 12 | 34P360120US776DRNG | 88 | 197 | 88.4 |
| 10.42 | 12.5 | 34P360125US776DRNG | 88 | 197 | 92.1 |
| 10.83 | 13 | 34P360130US776DRNG | 88 | 197 | 95.8 |
| 11.25 | 13.5 | 34P360135US776DRNG | 88 | 197 | 99.5 |
| 11.67 | 14.0 | 34P360140US776DRNG | 88 | 197 | 103.2 |
| 12.08 | 14.5 | 34P360145US776DRNG | 88 | 197 | 106.8 |
| 12.50 | 15 | 34P360150US776DRNG | 88 | 197 | 110.5 |
| 12.92 | 15.5 | 34P360155US896DRNG | 88 | 227 | 114.2 |
| 13.33 | 16 | 34P360160US896DRNG | 88 | 227 | 117.9 |
| 13.75 | 16.5 | 34P360165US896DRNG | 88 | 227 | 121.6 |
| 14.17 | 17.0 | 34P360170US896DRNG | 88 | 227 | 125.3 |
| 14.58 | 17.5 | 34P360175US896DRNG | 88 | 227 | 128.9 |
| 15.00 | 18 | 34P360180US896DRNG | 88 | 227 | 132.6 |
| 15.42 | 18.5 | 34P360185US896DRNG | 88 | 227 | 136.3 |
| 15.83 | 19 | 34P360190US1A6DRNG | 88 | 272 | 140.0 |
| 16.25 | 19.5 | 34P360195US1A6DRNG | 88 | 272 | 143.7 |
| 16.67 | 20.0 | 34P360200US1A6DRNG | 88 | 272 | 147.4 |
| 17.08 | 20.5 | 34P360205US1A6DRNG | 88 | 272 | 151.0 |
| 17.50 | 21 | 34P360210US1A6DRNG | 88 | 272 | 154.7 |
| 17.92 | 21.5 | 34P360215US1A6DRNG | 88 | 272 | 158.4 |
| 18.33 | 22 | 34P360220US1A6DRNG | 88 | 272 | 162.1 |
| 18.75 | 22.5 | 34P360225US1A6DRNG | 88 | 272 | 165.8 |
| 19.17 | 23.0 | 34P360230US1A6DRNG | 88 | 272 | 169.5 |
| 19.58 | 23.5 | 34P360235US1A6DRNG | 88 | 272 | 173.2 |
| 20.00 | 24 | 34P360240US1A6DRNG | 88 | 272 | 176.8 |

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|---|---|---|---|---|---|
| 20.42 | 24.5 | 34P360245US1A6DRNG | 88 | 272 | 180.5 |
| 20.83 | 25.0 | 34P360250UW776DRNG | 116 | 197 | 184.2 |
| 21.25 | 25.5 | 34P360255UW776DRNG | 116 | 197 | 187.9 |
| 21.67 | 26.0 | 34P360260UW776DRNG | 116 | 197 | 191.6 |
| 22.08 | 26.5 | 34P360265UW776DRNG | 116 | 197 | 195.3 |
| 22.50 | 27.0 | 34P360270UW776DRNG | 116 | 197 | 198.9 |
| 22.92 | 27.5 | 34P360275UW896DRNG | 116 | 227 | 202.6 |
| 23.33 | 28.0 | 34P360280UW896DRNG | 116 | 227 | 206.3 |
| 23.75 | 28.5 | 34P360285UW896DRNG | 116 | 227 | 210.0 |
| 24.17 | 29.0 | 34P360290UW896DRNG | 116 | 227 | 213.7 |
| 24.58 | 29.5 | 34P360295UW896DRNG | 116 | 227 | 217.4 |
| 25.00 | 30.0 | 34P360300UW896DRNG | 116 | 227 | 221.0 |



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## POWER FACTOR CORRECTION CELLS IN HARMONIC PRESENCE (SERIES 34H)

**-Size Charts 50 Hz and 60 Hz, 3 Phase Delta Connection**

### 240 Vac, 3 Phase Series 34H PFC Harmonics

(The Minimum and Maximum values are shown below, other values only under request)

| 50 Hz | 60 Hz | | Dimensions | | Total Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.42 | 0.5 | 34H324005UP386DRNG | 63.5 | 98 | 23.0 |
| 0.83 | 1.0 | 34H324010UP506DRNG | 63.5 | 127 | 46.1 |
| 1.25 | 1.5 | 34H324015UP506DRNG | 63.5 | 127 | 69.1 |
| 1.67 | 2.0 | 34H324020UP506DRNG | 63.5 | 127 | 92.1 |
| 2.08 | 2.5 | 34H324025US596DRNG | 88 | 152 | 115.1 |
| 2.50 | 3.0 | 34H324030US596DRNG | 88 | 152 | 138.2 |
| 2.92 | 3.5 | 34H324035US596DRNG | 88 | 152 | 161.2 |
| 3.33 | 4.0 | 34H324040US596DRNG | 88 | 152 | 184.2 |
| 3.75 | 4.5 | 34H324045US776DRNG | 88 | 197 | 207.2 |
| 4.17 | 5.0 | 34H324050US776DRNG | 88 | 197 | 230.3 |
| 4.58 | 5.5 | 34H324055US776DRNG | 88 | 197 | 253.3 |
| 5.00 | 6.0 | 34H324060US776DRNG | 88 | 197 | 276.3 |
| 5.42 | 6.5 | 34H324065US776DRNG | 88 | 197 | 299.3 |
| 5.83 | 7.0 | 34H324070US896DRNG | 88 | 227 | 322.4 |
| 6.25 | 7.5 | 34H324075US896DRNG | 88 | 227 | 345.4 |
| 6.67 | 8.0 | 34H324080US896DRNG | 88 | 227 | 368.4 |
| 7.08 | 8.5 | 34H324085US1A6DRNG | 88 | 272 | 391.4 |
| 7.50 | 9.0 | 34H324090US1A6DRNG | 88 | 272 | 414.5 |
| 7.92 | 9.5 | 34H324095US1A6DRNG | 88 | 272 | 437.5 |
| 8.33 | 10.0 | 34H324100US1A6DRNG | 88 | 272 | 460.5 |
| 8.75 | 10.5 | 34H324105US1A6DRNG | 88 | 272 | 483.5 |
| 9.17 | 11.0 | 34H324110US1A6DRNG | 88 | 272 | 506.6 |
| 9.58 | 11.5 | 34H324115UW776DRNG | 116 | 197 | 529.6 |
| 10.00 | 12 | 34H324120UW776DRNG | 116 | 197 | 552.6 |
| 10.42 | 12.5 | 34H324125UW896DRNG | 116 | 227 | 575.6 |
| 10.83 | 13 | 34H324130UW896DRNG | 116 | 227 | 598.7 |
| 11.25 | 13.5 | 34H324135UW896DRNG | 116 | 227 | 621.7 |
| 11.67 | 14 | 34H324140UW896DRNG | 116 | 227 | 644.7 |
| 12.08 | 14.5 | 34H324145UW896DRNG | 116 | 227 | 667.7 |
| 12.50 | 15 | 34H324150UW896DRNG | 116 | 227 | 690.8 |
| 12.92 | 15.5 | 34H324155UW1A6DRNG | 116 | 272 | 713.8 |
| 13.33 | 16 | 34H324160UW1A6DRNG | 116 | 272 | 736.8 |

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|---|---|---|---|---|---|
| 13.75 | 16.5 | 34H324165UW1A6DRNG | 116 | 272 | 759.9 |

## 300 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.42 | 0.5 | 34H300005UP386DRNG | 63.5 | 98 | 14.7 |
| 0.83 | 1.0 | 34H300010UP386DRNG | 63.5 | 98 | 29.5 |
| 1.25 | 1.5 | 34H300015UP506DRNG | 63.5 | 127 | 44.2 |
| 1.67 | 2.0 | 34H300020UP506DRNG | 63.5 | 127 | 58.9 |
| 2.08 | 2.5 | 34H300025US596DRNG | 88 | 152 | 73.7 |
| 2.50 | 3.0 | 34H300030US596DRNG | 88 | 152 | 88.4 |
| 2.92 | 3.5 | 34H300035US596DRNG | 88 | 152 | 103.2 |
| 3.33 | 4.0 | 34H300040US596DRNG | 88 | 152 | 117.9 |
| 3.75 | 4.5 | 34H300045US596DRNG | 88 | 152 | 132.6 |
| 4.17 | 5.0 | 34H300050US776DRNG | 88 | 197 | 147.4 |
| 4.58 | 5.5 | 34H300055US776DRNG | 88 | 197 | 162.1 |
| 5.00 | 6.0 | 34H300060US776DRNG | 88 | 197 | 176.8 |
| 5.42 | 6.5 | 34H300065US776DRNG | 88 | 197 | 191.6 |
| 5.83 | 7.0 | 34H300070US776DRNG | 88 | 197 | 206.3 |
| 6.25 | 7.5 | 34H300075US776DRNG | 88 | 197 | 221.0 |
| 6.67 | 8.0 | 34H300080US896DRNG | 88 | 227 | 235.8 |
| 7.08 | 8.5 | 34H300085US896DRNG | 88 | 227 | 250.5 |
| 7.50 | 9.0 | 34H300090US896DRNG | 88 | 227 | 265.3 |
| 7.92 | 9.5 | 34H300095US896DRNG | 88 | 227 | 280.0 |
| 8.33 | 10.0 | 34H300100US1A6DRNG | 88 | 272 | 294.7 |
| 8.75 | 10.5 | 34H300105US1A6DRNG | 88 | 272 | 309.5 |
| 9.17 | 11.0 | 34H300110US1A6DRNG | 88 | 272 | 324.2 |
| 9.58 | 11.5 | 34H300115US1A6DRNG | 88 | 272 | 338.9 |
| 10.00 | 12 | 34H300120US1A6DRNG | 88 | 272 | 353.7 |
| 10.42 | 12.5 | 34H300125US1A6DRNG | 88 | 272 | 368.4 |
| 10.83 | 13 | 34H300130UW776DRNG | 116 | 197 | 383.1 |
| 11.25 | 13.5 | 34H300135UW776DRNG | 116 | 197 | 397.9 |
| 11.67 | 14.0 | 34H300140UW896DRNG | 116 | 227 | 412.6 |
| 12.08 | 14.5 | 34H300145UW896DRNG | 116 | 227 | 427.4 |
| 12.50 | 15 | 34H300150UW896DRNG | 166 | 227 | 442.1 |
| 12.92 | 15.5 | 34H300155UW896DRNG | 116 | 227 | 456.8 |
| 13.33 | 16 | 34H300160UW896DRNG | 116 | 227 | 471.6 |
| 13.75 | 16.5 | 34H300165UW896DRNG | 116 | 227 | 486.3 |
| 14.17 | 17.0 | 34H300170UW896DRNG | 116 | 227 | 501.0 |

| | | | | | |
|---|---|---|---|---|---|
| 14.58 | 17.5 | 34H300175UW896DRNG | 116 | 227 | 515.8 |
| 15.00 | 18 | 34H300180UW1A6DRNG | 116 | 272 | 530.5 |
| 15.42 | 18.5 | 34H300185UW1A6DRNG | 116 | 272 | 545.3 |
| 15.83 | 19 | 34H300190UW1A6DRNG | 116 | 272 | 560.0 |
| 16.25 | 19.5 | 34H300195UW1A6DRNG | 116 | 272 | 574.7 |
| 16.67 | 20 | 34H300200UW1A6DRNG | 116 | 272 | 589.5 |
| 17.08 | 20.5 | 34H300205UW1A6DRNG | 116 | 272 | 604.2 |

## 370 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.42 | 0.5 | 34H337005UP386DRNG | 63.5 | 98 | 9.7 |
| 0.83 | 1.0 | 34H337010UP386DRNG | 63.5 | 98 | 19.4 |
| 1.25 | 1.5 | 34H337015UP506DRNG | 63.5 | 127 | 29.1 |
| 1.67 | 2.0 | 34H337020UP506DRNG | 63.5 | 127 | 38.8 |
| 2.08 | 2.5 | 34H337025UP506DRNG | 63.5 | 127 | 48.4 |
| 2.50 | 3.0 | 34H337030US596DRNG | 88 | 152 | 58.1 |
| 2.92 | 3.5 | 34H337035US596DRNG | 88 | 152 | 67.8 |
| 3.33 | 4.0 | 34H337040US596DRNG | 88 | 152 | 77.5 |
| 3.75 | 4.5 | 34H337045US596DRNG | 88 | 152 | 87.2 |
| 4.17 | 5.0 | 34H337050US596DRNG | 88 | 152 | 96.9 |
| 4.58 | 5.5 | 34H337055US776DRNG | 88 | 197 | 106.6 |
| 5.00 | 6.0 | 34H337060US776DRNG | 88 | 197 | 116.3 |
| 5.42 | 6.5 | 34H337065US776DRNG | 88 | 197 | 125.9 |
| 5.83 | 7.0 | 34H337070US776DRNG | 88 | 197 | 135.6 |
| 6.25 | 7.5 | 34H337075US776DRNG | 88 | 197 | 145.3 |
| 6.67 | 8.0 | 34H337080US776DRNG | 88 | 197 | 155.0 |
| 7.08 | 8.5 | 34H337085US776DRNG | 88 | 197 | 164.7 |
| 7.50 | 9.0 | 34H337090US896DRNG | 88 | 227 | 174.4 |
| 7.92 | 9.5 | 34H337095US896DRNG | 88 | 227 | 184.1 |
| 8.33 | 10.0 | 34H337100US896DRNG | 88 | 227 | 193.8 |
| 8.75 | 10.5 | 34H337105US896DRNG | 88 | 227 | 203.4 |
| 9.17 | 11.0 | 34H337110US896DRNG | 88 | 227 | 213.1 |
| 9.58 | 11.5 | 34H337115US1A6DRNG | 88 | 272 | 222.8 |
| 10.00 | 12 | 34H337120US1A6DRNG | 88 | 272 | 232.5 |
| 10.42 | 12.5 | 34H337125US1A6DRNG | 88 | 272 | 242.2 |
| 10.83 | 13 | 34H337130US1A6DRNG | 88 | 272 | 251.9 |

| | | | | | |
|---|---|---|---|---|---|
| 11.25 | 13.5 | 34H337135US1A6DRNG | 88 | 272 | 261.6 |
| 11.67 | 14.0 | 34H337140US1A6DRNG | 88 | 272 | 271.3 |
| 12.08 | 14.5 | 34H337145US1A6DRNG | 88 | 272 | 281.0 |
| 12.50 | 15 | 34H337150UW776DRNG | 116 | 197 | 290.6 |
| 12.92 | 15.5 | 34H337155UW776DRNG | 116 | 197 | 300.3 |
| 13.33 | 16 | 34H337160UW776DRNG | 116 | 197 | 310.0 |
| 13.75 | 16.5 | 34H337165UW896DRNG | 116 | 227 | 319.7 |
| 14.17 | 17.0 | 34H337170UW896DRNG | 116 | 227 | 329.4 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW896DRNG | 116 | 227 | 339.1 |
| 14.58 | 17.5 | 34H337175UW1A6DRNG | 116 | 272 | 339.1 |
| 14.58 | 17.5 | 34H337175UW1A6DRNG | 116 | 272 | 339.1 |
| 14.58 | 17.5 | 34H337175UW1A6DRNG | 116 | 272 | 339.1 |
| 18.33 | 22 | 34H337220UW1A6DRNG | 116 | 272 | 426.3 |
| 18.75 | 22.5 | 34H337225UW1A6DRNG | 116 | 272 | 436.0 |
| 19.17 | 23 | 34H337230UW1A6DRNG | 116 | 272 | 445.6 |
| 19.58 | 23.5 | 34H337235UW1A6DRNG | 116 | 272 | 455.3 |
| 20.00 | 24 | 34H337240UW1A6DRNG | 116 | 272 | 465.0 |
| 20.42 | 24.5 | 34H337245UW1A6DRNG | 116 | 272 | 474.7 |
| 20.83 | 25 | 34H337250UW1A6DRNG | 116 | 272 | 484.4 |
| 21.25 | 25.5 | 34H337255UW1A6DRNG | 116 | 272 | 494.1 |

## 400 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.42 | 0.5 | 34H340005UP386DRNG | 63.5 | 98 | 8.3 |
| 0.83 | 1.0 | 34H340010UP386DRNG | 63.5 | 98 | 16.6 |
| 1.25 | 1.5 | 34H340015UP506DRNG | 63.5 | 127 | 24.9 |
| 1.67 | 2.0 | 34H340020UP506DRNG | 63.5 | 127 | 33.2 |
| 2.08 | 2.5 | 34H340025UP506DRNG | 63.5 | 127 | 41.4 |
| 2.50 | 3.0 | 34H340030US596DRNG | 88 | 152 | 49.7 |
| 2.92 | 3.5 | 34H340035US596DRNG | 88 | 152 | 58.0 |
| 3.33 | 4.0 | 34H340040US596DRNG | 88 | 152 | 66.3 |
| 3.75 | 4.5 | 34H340045US596DRNG | 88 | 152 | 74.6 |
| 4.17 | 5.0 | 34H340050US596DRNG | 88 | 152 | 82.9 |

| | | | | | |
|---|---|---|---|---|---|
| 4.58 | 5.5 | 34H340055US776DRNG | 88 | 197 | 91.2 |
| 5.00 | 6.0 | 34H340060US776DRNG | 88 | 197 | 99.5 |
| 5.42 | 6.5 | 34H340065US776DRNG | 88 | 197 | 107.8 |
| 5.83 | 7.0 | 34H340070US776DRNG | 88 | 197 | 116.1 |
| 6.25 | 7.5 | 34H340075US776DRNG | 88 | 197 | 124.3 |
| 6.67 | 8.0 | 34H340080US776DRNG | 88 | 197 | 132.6 |
| 7.08 | 8.5 | 34H340085US896DRNG | 88 | 227 | 140.9 |
| 7.50 | 9.0 | 34H340090US896DRNG | 88 | 227 | 149.2 |
| 7.92 | 9.5 | 34H340095US896DRNG | 88 | 227 | 157.5 |
| 8.33 | 10.0 | 34H340100US896DRNG | 88 | 227 | 165.8 |
| 8.75 | 10.5 | 34H340105US1A6DRNG | 88 | 272 | 174.1 |
| 9.17 | 11.0 | 34H340110US1A6DRNG | 88 | 272 | 182.4 |
| 9.58 | 11.5 | 34H340115US1A6DRNG | 88 | 272 | 190.7 |
| 10.00 | 12 | 34H340120US1A6DRNG | 88 | 272 | 198.9 |
| 10.42 | 12.5 | 34H340125US1A6DRNG | 88 | 272 | 207.2 |
| 10.83 | 13 | 34H340130US1A6DRNG | 88 | 272 | 215.5 |
| 11.25 | 13.5 | 34H340135US1A6DRNG | 88 | 272 | 223.8 |
| 11.67 | 14.0 | 34H340140UW776DRNG | 116 | 197 | 232.1 |
| 12.08 | 14.5 | 34H340145UW776DRNG | 116 | 197 | 240.4 |
| 12.50 | 15 | 34H340150UW896DRNG | 116 | 227 | 248.7 |
| 12.92 | 15.5 | 34H340155UW896DRNG | 116 | 227 | 257.0 |
| 13.33 | 16 | 34H340160UW896DRNG | 116 | 227 | 265.3 |
| 13.75 | 16.5 | 34H340165UW896DRNG | 116 | 227 | 273.5 |
| 14.17 | 17.0 | 34H340170UW896DRNG | 116 | 227 | 281.8 |
| 14.58 | 17.5 | 34H340175UW896DRNG | 116 | 227 | 290.1 |
| 15.00 | 18 | 34H340180UW896DRNG | 116 | 227 | 298.4 |
| 15.42 | 18.5 | 34H340185UW896DRNG | 116 | 227 | 306.7 |
| 15.83 | 19 | 34H340190UW1A6DRNG | 116 | 272 | 315.0 |
| 16.25 | 19.5 | 34H340195UW1A6DRNG | 116 | 272 | 323.3 |
| 16.67 | 20.0 | 34H340200UW1A6DRNG | 116 | 272 | 331.6 |
| 17.08 | 20.5 | 34H340205UW1A6DRNG | 116 | 272 | 339.9 |
| 17.50 | 21 | 34H340210UW1A6DRNG | 116 | 272 | 348.2 |
| 17.92 | 21.5 | 34H340215UW1A6DRNG | 116 | 272 | 356.4 |
| 18.33 | 22 | 34H340220UW1A6DRNG | 116 | 272 | 364.7 |
| 18.75 | 22.5 | 34H340225UW1A6DRNG | 116 | 272 | 373.0 |
| 19.17 | 23.0 | 34H340230UW1A6DRNG | 116 | 272 | 381.3 |
| 19.58 | 23.5 | 34H340235UW1A6DRNG | 116 | 272 | 389.6 |
| 20.00 | 24 | 34H340240UW1A6DRNG | 116 | 272 | 397.9 |
| 20.42 | 24.5 | 34H340245UW1A6DRNG | 116 | 272 | 406.2 |



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## 440 Vac, 3 Phase Series 34H PFC Harmonics

(The Minimum and Maximum values are shown below, other values only under request)

| 50 Hz | 60 Hz | | Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34H344010UP386DRNG | 63.5 | 98 | 13.7 |
| 1.25 | 1.5 | 34H344015UP506DRNG | 63.5 | 127 | 20.6 |
| 1.67 | 2.0 | 34H344020UP506DRNG | 63.5 | 127 | 27.4 |
| 2.08 | 2.5 | 34H344025UP506DRNG | 63.5 | 127 | 34.3 |
| 2.50 | 3.0 | 34H344030UP506DRNG | 63.5 | 127 | 41.1 |
| 2.92 | 3.5 | 34H344035US596DRNG | 88 | 152 | 48.0 |
| 3.33 | 4.0 | 34H344040US596DRNG | 88 | 152 | 54.8 |
| 3.75 | 4.5 | 34H344045US596DRNG | 88 | 152 | 61.7 |
| 4.17 | 5.0 | 34H344050US596DRNG | 88 | 152 | 68.5 |
| 4.58 | 5.5 | 34H344055US596DRNG | 88 | 152 | 75.4 |
| 5.00 | 6.0 | 34H344060US596DRNG | 88 | 152 | 82.2 |
| 5.42 | 6.5 | 34H344065US776DRNG | 88 | 197 | 89.1 |
| 5.83 | 7.0 | 34H344070US776DRNG | 88 | 197 | 95.9 |
| 6.25 | 7.5 | 34H344075US776DRNG | 88 | 197 | 102.8 |
| 6.67 | 8.0 | 34H344080US776DRNG | 88 | 197 | 109.6 |
| 7.08 | 8.5 | 34H344085US776DRNG | 88 | 197 | 116.5 |
| 7.50 | 9.0 | 34H344090US776DRNG | 88 | 197 | 123.3 |
| 7.92 | 9.5 | 34H344095US776DRNG | 88 | 197 | 130.2 |
| 8.33 | 10.0 | 34H344100US776DRNG | 88 | 197 | 137.0 |
| 8.75 | 10.5 | 34H344105US896DRNG | 88 | 227 | 143.9 |
| 9.17 | 11.0 | 34H344110US896DRNG | 88 | 227 | 150.7 |
| 9.58 | 11.5 | 34H344115US896DRNG | 88 | 227 | 157.6 |
| 10.00 | 12 | 34H344120US896DRNG | 88 | 227 | 164.4 |
| 10.42 | 12.5 | 34H344125US896DRNG | 88 | 227 | 171.3 |
| 10.83 | 13 | 34H344130US1A6DRNG | 88 | 272 | 178.1 |
| 11.25 | 13.5 | 34H344135US1A6DRNG | 88 | 272 | 185.0 |
| 11.67 | 14.0 | 34H344140US1A6DRNG | 88 | 272 | 191.8 |
| 12.08 | 14.5 | 34H344145US1A6DRNG | 88 | 272 | 198.7 |
| 12.50 | 15 | 34H344150US1A6DRNG | 88 | 272 | 205.5 |
| 12.92 | 15.5 | 34H344155US1A6DRNG | 88 | 272 | 212.4 |
| 13.33 | 16 | 34H344160US1A6DRNG | 88 | 272 | 219.2 |
| 13.75 | 16.5 | 34H344165US1A6DRNG | 88 | 272 | 226.1 |
| 14.17 | 17.0 | 34H344170UW776DRNG | 116 | 197 | 232.9 |
| 14.58 | 17.5 | 34H344175UW776DRNG | 116 | 197 | 239.8 |
| 15.00 | 18 | 34H344180UW776DRNG | 116 | 197 | 246.6 |



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| | | | | | |
|---|---|---|---|---|---|
| 15.42 | 18.5 | 34H344185UW896DRNG | 116 | 227 | 253.5 |
| 15.83 | 19 | 34H344190UW896DRNG | 116 | 227 | 260.3 |
| 16.25 | 19.5 | 34H344195UW896DRNG | 116 | 227 | 267.2 |
| 16.67 | 20.0 | 34H344200UW896DRNG | 116 | 227 | 274.0 |
| 17.08 | 20.5 | 34H344205UW896DRNG | 116 | 227 | 280.9 |
| 17.50 | 21 | 34H344210UW896DRNG | 116 | 227 | 287.7 |
| 17.92 | 21.5 | 34H344215UW896DRNG | 116 | 227 | 294.6 |
| 18.33 | 22 | 34H344220UW896DRNG | 116 | 227 | 301.4 |
| 18.75 | 22.5 | 34H344225UW896DRNG | 116 | 227 | 308.3 |
| 19.17 | 23.0 | 34H344230UW1A6DRNG | 116 | 272 | 315.1 |
| 19.58 | 23.5 | 34H344235UW1A6DRNG | 116 | 272 | 322.0 |
| 20.00 | 24 | 34H344240UW1A6DRNG | 116 | 272 | 328.8 |
| 20.42 | 24.5 | 34H344245UW1A6DRNG | 116 | 272 | 335.7 |
| 20.83 | 25 | 34H344250UW1A6DRNG | 116 | 272 | 342.5 |
| 21.25 | 25.5 | 34H344255UW1A6DRNG | 116 | 272 | 349.4 |
| 21.67 | 26 | 34H344260UW1A6DRNG | 116 | 272 | 356.2 |
| 22.08 | 26.5 | 34H344265UW1A6DRNG | 116 | 272 | 363.1 |
| 22.50 | 27 | 34H344270UW1A6DRNG | 116 | 272 | 369.9 |
| 22.92 | 27.5 | 34H344275UW1A6DRNG | 116 | 272 | 376.8 |
| 23.33 | 28 | 34H344280UW1A6DRNG | 116 | 272 | 383.6 |
| 23.75 | 28.5 | 34H344285UW1A6DRNG | 116 | 272 | 390.5 |
| 24.17 | 29 | 34H344290UW1A6DRNG | 116 | 272 | 397.3 |
| 24.58 | 29.5 | 34H344295UW1A6DRNG | 116 | 272 | 404.2 |

## 480 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Case Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34H348010UP386DRNG | 63.5 | 98 | 11.5 |
| 1.25 | 1.5 | 34H348015UP506DRNG | 63.5 | 127 | 17.3 |
| 1.67 | 2.0 | 34H348020UP506DRNG | 63.5 | 127 | 23.0 |
| 2.08 | 2.5 | 34H348025UP506DRNG | 63.5 | 127 | 28.8 |
| 2.50 | 3.0 | 34H348030US596DRNG | 88 | 152 | 34.5 |
| 2.92 | 3.5 | 34H348035US596DRNG | 88 | 152 | 40.3 |
| 3.33 | 4.0 | 34H348040US596DRNG | 88 | 152 | 46.1 |
| 3.75 | 4.5 | 34H348045US596DRNG | 88 | 152 | 51.8 |
| 4.17 | 5.0 | 34H348050US596DRNG | 88 | 152 | 57.6 |
| 4.58 | 5.5 | 34H348055US596DRNG | 88 | 152 | 63.3 |
| 5.00 | 6.0 | 34H348060US776DRNG | 88 | 197 | 69.1 |



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| | | | | | |
|---|---|---|---|---|---|
| 5.42 | 6.5 | 34H348065US776DRNG | 88 | 197 | 74.8 |
| 5.83 | 7.0 | 34H348070US776DRNG | 88 | 197 | 80.6 |
| 6.25 | 7.5 | 34H348075US776DRNG | 88 | 197 | 86.3 |
| 6.67 | 8.0 | 34H348080US776DRNG | 88 | 197 | 92.1 |
| 7.08 | 8.5 | 34H348085US776DRNG | 88 | 197 | 97.9 |
| 7.50 | 9.0 | 34H348090US776DRNG | 88 | 197 | 103.6 |
| 7.92 | 9.5 | 34H348095US776DRNG | 88 | 197 | 109.4 |
| 8.33 | 10.0 | 34H348100US896DRNG | 88 | 227 | 115.1 |
| 8.75 | 10.5 | 34H348105US896DRNG | 88 | 227 | 120.9 |
| 9.17 | 11.0 | 34H348110US896DRNG | 88 | 227 | 126.6 |
| 9.58 | 11.5 | 34H348115US896DRNG | 88 | 227 | 132.4 |
| 10.00 | 12 | 34H348120US896DRNG | 88 | 227 | 138.2 |
| 10.42 | 12.5 | 34H348125US1A6DRNG | 88 | 272 | 143.9 |
| 10.83 | 13 | 34H348130US1A6DRNG | 88 | 272 | 149.7 |
| 11.25 | 13.5 | 34H348135US1A6DRNG | 88 | 272 | 155.4 |
| 11.67 | 14.0 | 34H348140US1A6DRNG | 88 | 272 | 161.2 |
| 12.08 | 14.5 | 34H348145US1A6DRNG | 88 | 272 | 166.9 |
| 12.50 | 15 | 34H348150US1A6DRNG | 88 | 272 | 172.7 |
| 12.92 | 15.5 | 34H348155US1A6DRNG | 88 | 272 | 178.5 |
| 13.33 | 16 | 34H348160UW776DRNG | 116 | 197 | 184.2 |
| 13.75 | 16.5 | 34H348165UW776DRNG | 116 | 197 | 190.0 |
| 14.17 | 17.0 | 34H348170UW776DRNG | 116 | 197 | 195.7 |
| 14.58 | 17.5 | 34H348175UW896DRNG | 116 | 227 | 201.5 |
| 15.00 | 18 | 34H348180UW896DRNG | 116 | 227 | 207.2 |
| 15.42 | 18.5 | 34H348185UW896DRNG | 116 | 227 | 213.0 |
| 15.83 | 19 | 34H348190UW896DRNG | 116 | 227 | 218.7 |
| 16.25 | 19.5 | 34H348195UW896DRNG | 116 | 227 | 224.5 |
| 16.67 | 20.0 | 34H348200UW896DRNG | 116 | 227 | 230.3 |
| 17.08 | 20.5 | 34H348205UW896DRNG | 116 | 227 | 236.0 |
| 17.50 | 21 | 34H348210UW896DRNG | 116 | 227 | 241.8 |
| 17.92 | 21.5 | 34H348215UW896DRNG | 116 | 227 | 247.5 |
| 18.33 | 22 | 34H348220UW896DRNG | 116 | 227 | 253.3 |
| 18.75 | 22.5 | 34H348225UW1A6DRNG | 116 | 272 | 259.0 |
| 19.17 | 23.0 | 34H348230UW1A6DRNG | 116 | 272 | 264.8 |
| 19.58 | 23.5 | 34H348235UW1A6DRNG | 116 | 272 | 270.6 |
| 20.00 | 24 | 34H348240UW1A6DRNG | 116 | 272 | 276.3 |
| 20.42 | 24.5 | 34H348245UW1A6DRNG | 116 | 272 | 282.1 |
| 20.83 | 25.0 | 34H348250UW1A6DRNG | 116 | 272 | 287.8 |
| 21.25 | 25.5 | 34H348255UW1A6DRNG | 116 | 272 | 293.6 |
| 21.67 | 26.0 | 34H348260UW1A6DRNG | 116 | 272 | 299.3 |
| 22.08 | 26.5 | 34H348265UW1A6DRNG | 116 | 272 | 305.1 |
| 22.50 | 27.0 | 34H348270UW1A6DRNG | 116 | 272 | 310.8 |
| 22.92 | 27.5 | 34H348275UW1A6DRNG | 116 | 272 | 316.6 |



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| | | | | | |
|---|---|---|---|---|---|
| 23.33 | 28.0 | 34H348280UW1A6DRNG | 116 | 272 | 322.4 |
| 23.75 | 28.5 | 34H348285UW1A6DRNG | 116 | 272 | 328.1 |

## 525 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Case Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34H348010UP386DRNG | 63.5 | 98 | 9.6 |
| 1.25 | 1.5 | 34H348015UP506DRNG | 63.5 | 127 | 14.4 |
| 1.67 | 2.0 | 34H348020UP506DRNG | 63.5 | 127 | 19.2 |
| 2.08 | 2.5 | 34H348025US596DRNG | 88 | 152 | 24.1 |
| 2.50 | 3.0 | 34H348030US596DRNG | 88 | 152 | 28.9 |
| 2.92 | 3.5 | 34H348035US596DRNG | 88 | 152 | 33.7 |
| 3.33 | 4.0 | 34H348040US596DRNG | 88 | 152 | 38.5 |
| 3.75 | 4.5 | 34H348045US596DRNG | 88 | 152 | 43.3 |
| 4.17 | 5.0 | 34H348050US776DRNG | 88 | 197 | 48.1 |
| 4.58 | 5.5 | 34H348055US776DRNG | 88 | 197 | 52.9 |
| 5.00 | 6.0 | 34H348060US776DRNG | 88 | 197 | 57.7 |
| 5.42 | 6.5 | 34H348065US776DRNG | 88 | 197 | 62.6 |
| 5.83 | 7.0 | 34H348070US776DRNG | 88 | 197 | 67.4 |
| 6.25 | 7.5 | 34H348075US776DRNG | 88 | 197 | 72.2 |
| 6.67 | 8.0 | 34H348080US776DRNG | 88 | 197 | 77.0 |
| 7.08 | 8.5 | 34H348085US896DRNG | 88 | 227 | 81.8 |
| 7.50 | 9.0 | 34H348090US896DRNG | 88 | 227 | 86.6 |
| 7.92 | 9.5 | 34H348095US776DRNG | 88 | 197 | 91.4 |
| 8.33 | 10.0 | 34H348100US896DRNG | 88 | 227 | 96.2 |
| 8.75 | 10.5 | 34H348105US1A6DRNG | 88 | 272 | 101.1 |
| 9.17 | 11.0 | 34H348110US1A6DRNG | 88 | 272 | 105.9 |
| 9.58 | 11.5 | 34H348115US1A6DRNG | 88 | 272 | 110.7 |
| 10.00 | 12 | 34H348120US896DRNG | 88 | 227 | 115.5 |
| 10.42 | 12.5 | 34H348125US1A6DRNG | 88 | 272 | 120.3 |
| 10.83 | 13 | 34H348130US1A6DRNG | 88 | 272 | 125.1 |
| 11.25 | 13.5 | 34H348135UW776DRNG | 116 | 197 | 129.9 |
| 11.67 | 14.0 | 34H348140UW776DRNG | 116 | 197 | 134.7 |
| 12.08 | 14.5 | 34H348145UW776DRNG | 116 | 197 | 139.5 |
| 12.50 | 15 | 34H348150UW896DRNG | 116 | 227 | 144.4 |
| 12.92 | 15.5 | 34H348155UW896DRNG | 116 | 227 | 149.2 |
| 13.33 | 16 | 34H348160UW896DRNG | 116 | 227 | 154.0 |
| 13.75 | 16.5 | 34H348165UW896DRNG | 116 | 227 | 158.8 |

| | | | | | |
|---|---|---|---|---|---|
| 14.17 | 17.0 | 34H348170UW896DRNG | 116 | 227 | 163.6 |
| 14.58 | 17.5 | 34H348175UW896DRNG | 116 | 227 | 168.4 |
| 15.00 | 18 | 34H348180UW896DRNG | 116 | 227 | 173.2 |
| 15.42 | 18.5 | 34H348185UW1A6DRNG | 116 | 272 | 178.0 |
| 15.83 | 19 | 34H348190UW1A6DRNG | 116 | 272 | 182.9 |
| 16.25 | 19.5 | 34H348195UW1A6DRNG | 116 | 272 | 187.7 |
| 16.67 | 20.0 | 34H348200UW1A6DRNG | 116 | 272 | 192.5 |
| 17.08 | 20.5 | 34H348205UW1A6DRNG | 116 | 272 | 197.3 |
| 17.50 | 21 | 34H348210UW1A6DRNG | 116 | 272 | 202.1 |
| 17.92 | 21.5 | 34H348215UW896DRNG | 116 | 227 | 206.9 |
| 18.33 | 22 | 34H348220UW896DRNG | 116 | 227 | 211.7 |
| 18.75 | 22.5 | 34H348225UW1A6DRNG | 116 | 272 | 216.5 |
| 19.17 | 23 | 34H348230UW1A6DRNG | 116 | 272 | 221.3 |
| 19.58 | 23.5 | 34H348235UW1A6DRNG | 116 | 272 | 226.2 |

## 600 Vac, 3 Phase Series 34H PFC Harmonics

**(The Minimum and Maximum values are shown below, other values only under request)**

| 50 Hz | 60 Hz | | Dimensions | | Capacitance |
|---|---|---|---|---|---|
| Rated Reactive Power | Rated Reactive Power | NGM Model | Out Diameter (D) | Height (H) | |
| [KVAr] | [KVAr] | | [mm] | [mm] | [µF] |
| 0.83 | 1.0 | 34H360010UP386DRNG | 63.5 | 98 | 7.4 |
| 1.25 | 1.5 | 34H360015UP506DRNG | 63.5 | 127 | 11.1 |
| 1.67 | 2.0 | 34H360020UP506DRNG | 63.5 | 127 | 14.7 |
| 2.08 | 2.5 | 34H360025UP506DRNG | 63.5 | 127 | 18.4 |
| 2.50 | 3.0 | 34H360030UP506DRNG | 63.5 | 127 | 22.1 |
| 2.92 | 3.5 | 34H360035US596DRNG | 88 | 152 | 25.8 |
| 3.33 | 4.0 | 34H360040US596DRNG | 88 | 152 | 29.5 |
| 3.75 | 4.5 | 34H360045US596DRNG | 88 | 152 | 33.2 |
| 4.17 | 5.0 | 34H360050US596DRNG | 88 | 152 | 36.8 |
| 4.58 | 5.5 | 34H360055US596DRNG | 88 | 152 | 40.5 |
| 5.00 | 6.0 | 34H360060US596DRNG | 88 | 152 | 44.2 |
| 5.42 | 6.5 | 34H360065US776DRNG | 88 | 197 | 47.9 |
| 5.83 | 7.0 | 34H360070US776DRNG | 88 | 197 | 51.6 |
| 6.25 | 7.5 | 34H360075US776DRNG | 88 | 197 | 55.3 |
| 6.67 | 8.0 | 34H360080US776DRNG | 88 | 197 | 58.9 |
| 7.08 | 8.5 | 34H360085US776DRNG | 88 | 197 | 62.6 |
| 7.50 | 9.0 | 34H360090US776DRNG | 88 | 197 | 66.3 |
| 7.92 | 9.5 | 34H360095US776DRNG | 88 | 197 | 70.0 |
| 8.33 | 10.0 | 34H360100US776DRNG | 88 | 197 | 73.7 |
| 8.75 | 10.5 | 34H360105US896DRNG | 88 | 227 | 77.4 |
| 9.17 | 11.0 | 34H360110US896DRNG | 88 | 227 | 81.1 |



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| | | | | | |
|---|---|---|---|---|---|
| 9.58 | 11.5 | 34H360115US896DRNG | 88 | 227 | 84.7 |
| 10.00 | 12 | 34H360120US896DRNG | 88 | 227 | 88.4 |
| 10.42 | 12.5 | 34H360125US896DRNG | 88 | 227 | 92.1 |
| 10.83 | 13 | 34H360130US896DRNG | 88 | 227 | 95.8 |
| 11.25 | 13.5 | 34H360135US1A6DRNG | 88 | 272 | 99.5 |
| 11.67 | 14.0 | 34H360140US1A6DRNG | 88 | 272 | 103.2 |
| 12.08 | 14.5 | 34H360145US1A6DRNG | 88 | 272 | 106.8 |
| 12.50 | 15 | 34H360150US1A6DRNG | 88 | 272 | 110.5 |
| 12.92 | 15.5 | 34H360155US1A6DRNG | 88 | 272 | 114.2 |
| 13.33 | 16 | 34H360160US1A6DRNG | 88 | 272 | 117.9 |
| 13.75 | 16.5 | 34H360165US1A6DRNG | 88 | 272 | 121.6 |
| 14.17 | 17.0 | 34H360170US1A6DRNG | 88 | 272 | 125.3 |
| 14.58 | 17.5 | 34H360175UW776DRNG | 116 | 197 | 128.9 |
| 15.00 | 18 | 34H360180UW776DRNG | 116 | 197 | 132.6 |
| 15.42 | 18.5 | 34H360185UW776DRNG | 116 | 197 | 136.3 |
| 15.83 | 19 | 34H360190UW896DRNG | 116 | 227 | 140.0 |
| 16.25 | 19.5 | 34H360195UW896DRNG | 116 | 227 | 143.7 |
| 16.67 | 20.0 | 34H360200UW896DRNG | 116 | 227 | 147.4 |
| 17.08 | 20.5 | 34H360205UW896DRNG | 116 | 227 | 151.0 |
| 17.50 | 21 | 34H360210UW896DRNG | 116 | 227 | 154.7 |
| 17.92 | 21.5 | 34H360215UW896DRNG | 116 | 227 | 158.4 |
| 18.33 | 22 | 34H360220UW896DRNG | 116 | 227 | 162.1 |
| 18.75 | 22.5 | 34H360225UW896DRNG | 116 | 227 | 165.8 |
| 19.17 | 23.0 | 34H360230UW896DRNG | 116 | 227 | 169.5 |
| 19.58 | 23.5 | 34H360235UW896DRNG | 116 | 227 | 173.2 |
| 20.00 | 24 | 34H360240UW1A6DRNG | 116 | 272 | 176.8 |
| 20.42 | 24.5 | 34H360245UW1A6DRNG | 116 | 272 | 180.5 |
| 20.83 | 25.0 | 34H360250UW1A6DRNG | 116 | 272 | 184.2 |
| 21.25 | 25.5 | 34H360255UW1A6DRNG | 116 | 272 | 187.9 |
| 21.67 | 26.0 | 34H360260UW1A6DRNG | 116 | 272 | 191.6 |
| 22.08 | 26.5 | 34H360265UW1A6DRNG | 116 | 272 | 195.3 |
| 22.50 | 27.0 | 34H360270UW1A6DRNG | 116 | 272 | 198.9 |
| 22.92 | 27.5 | 34H360275UW1A6DRNG | 116 | 272 | 202.6 |
| 23.33 | 28.0 | 34H360280UW1A6DRNG | 116 | 272 | 206.3 |
| 23.75 | 28.5 | 34H360285UW1A6DRNG | 116 | 272 | 210.0 |
| 24.17 | 29.0 | 34H360290UW1A6DRNG | 116 | 272 | 213.7 |
| 24.58 | 29.5 | 34H360295UW1A6DRNG | 116 | 272 | 217.4 |
| 25.00 | 30.0 | 34H360300UW1A6DRNG | 116 | 272 | 221.0 |



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## SAFETY FEATURES

There are 3 main characteristic to assure the safety of NG Capacitor Cells

- Pressure interrupter device.

NG Cells have a plastic pressure interrupter into the case and when the pressure reaches a preset value, the interrupter opens inside of the capacitor from the circuit. The pressure interrupter design for cells filling with nitrogen are based on a notched wire which breaks open with internal pressure where the case expands upward and is very visible indicating the capacitor has reached end of life and is no longer in the circuit. Performance of the interrupter device are verified on the UL 810 “Fault Current test”

- Discharge Resistors.

This device capable of reducing the voltage between the terminals after the capacitor has been disconnected from a network, any note on the capacitor label about the security have to be respected.

Each Cell is provided with a resistor for discharging each unit in 3 min to 75 VC or less, from an initial peak voltage of $\sqrt{2}$ times rated voltage $U_N$

- Polypropylene Dielectric Self-healing.

In the case of metallized film capacitors it is possible to eliminate faults as pin-holes by applying a much higher voltage than the rated voltage. This process is known as self-healing and practically makes a "zero defect dielectric" possible.

The self-healing process is started by an electric breakdown, which takes about 10-8 sec. In the breakdown channel, the dielectric is transformed into highly compressed plasma which is pushed out of the channel and presses the dielectric layers a part.

In the spreading plasma, discharging continues over the metal electrodes. Temperatures of approximately 6000 K occur and insulated areas are formed around the original failure spot. This self-healing process takes a few µsec and the discharging in the plasma has already ceased before a greater loss of voltage takes place. This quick extinction of the plasma is necessary to avoid further damage to the dielectric layer next to the point of failure.

The pressure between the layers must not be too great, so that the plasma can spread out from the breakdown channel quickly. Large parts of the plasma get into areas of low field strength.

The flawless course of the self-healing process depends on the thickness of the metallization, on the chemical composition and on the rate of the applied voltage; here, apart from the chemical composition, the production conditions have to provide the prerequisites for optimum self-healing.



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## DISPOSAL

The materials used in our capacitors for PFC or Harmonics do not exceed the limits for chemical substances specified in the following national regulations:

– Chemicals prohibition regulation.

– CFC halogen prohibition regulation.

Our capacitors for Power factor Correction or Harmonic Filters Cells don't contain any means of impregnation with PCB.

The capacitors can be disposed as follows:

- Disposal to European Waste Catalogue 160205 (capacitors filled with plant oil/resin).
- Hardened filling materials: To EWC 080404 (solidified adhesives and sealants).
- Liquid filling materials which may have emerged from the capacitor shall be absorbed by proper granules and disposed of in accordance with European Waste Catalogue 080410 (PUR resin residues, not solidified).

Caution: When touching or wasting capacitors with activated break-action mechanism, please consider that even after days and weeks these capacitors may still be charged with high voltages.

Consult your national rules and restrictions for waste and disposal.



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# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| Certificate Number | 20140927-E229850 |
| Report Reference | E229850-20140925 |
| Issue Date | 2014-SEPTEMBER-27 |
| Issued to: | NUEVA GENERACION MANUFACTURAS S A DE C V<br>AV TEZOZOMOC 239<br>FRACC INDUSTRIAL SAN ANTONIO<br>02760 AZCAPOTZALCO, DF MEXICO |
| This is to certify that representative samples of | COMPONENT - CAPACITORS<br>Component Capacitors - Internally protected capacitors, intended for use in power factor correction; Type 34.<br><br>Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate. |
| Standard(s) for Safety: | UL 810 Standard for Capacitors,<br>CSA C22.2 No. 190-M1985 Standard for Capacitor for Power Factor Correction. |
| Additional Information: | See the UL Online Certifications Directory at www.ul.com/database for additional information |

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: 𝑹𝑳 may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada: 𝑹𝑳 and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.

William R. Carney, Director, North American Certification Programs

UL LLC

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## USEFUL EQUATIONS

**Capacitors in Parallel**

C = C1 + C2 + . . + Cn

**Capacitors in Serie**

$1 / C_T = 1 / C_1 + 1 / C_2 + . . + 1 / C_n$

Where

C = capacitance (Farad, F, µF)

**Dissipation factor**

$$DF = Tan\ \delta\ = \frac{ESR}{X_C} = (2\pi f)(C)(ESR)$$

$$Power\ Loss = (2\pi f)(C * V^2)(DF)$$

**Capacitive Reactance**

$$X_C = \frac{1}{2\pi f\ C}$$

**Capacitance total.**

$$C_T = \frac{KVARx10^{-3}}{(2\pi f)(KV)^2}$$

**Phase Current**

$$I_f = \frac{V}{X_C}$$

**Rated Current**

$$I_n = \ \overline{3} * I_f$$

**Input Power**

$$KW = \frac{hp\ x\ 0.746}{\%Eff}$$

**Power on the capacitor**

$$KVA = \frac{V_l\ x\ I_l}{1000} Single\ Phase$$

$$KVA = \frac{\sqrt{3}\ x\ V_l\ x\ I_l}{1000} Three\ Phase$$

**Reactive Power**

$$KVAr = \frac{2\pi\ x\ f\ x\ C\ x\ [KV]^2}{10^{-3}}$$

**Discharge Resistance**

$$R \leq \frac{t}{k.C.In\frac{U_N\sqrt{2}}{U_R}}$$

Where:

t is the time for discharge from $U_N\ \sqrt{2}$ to $U_R$ in seconds [s]

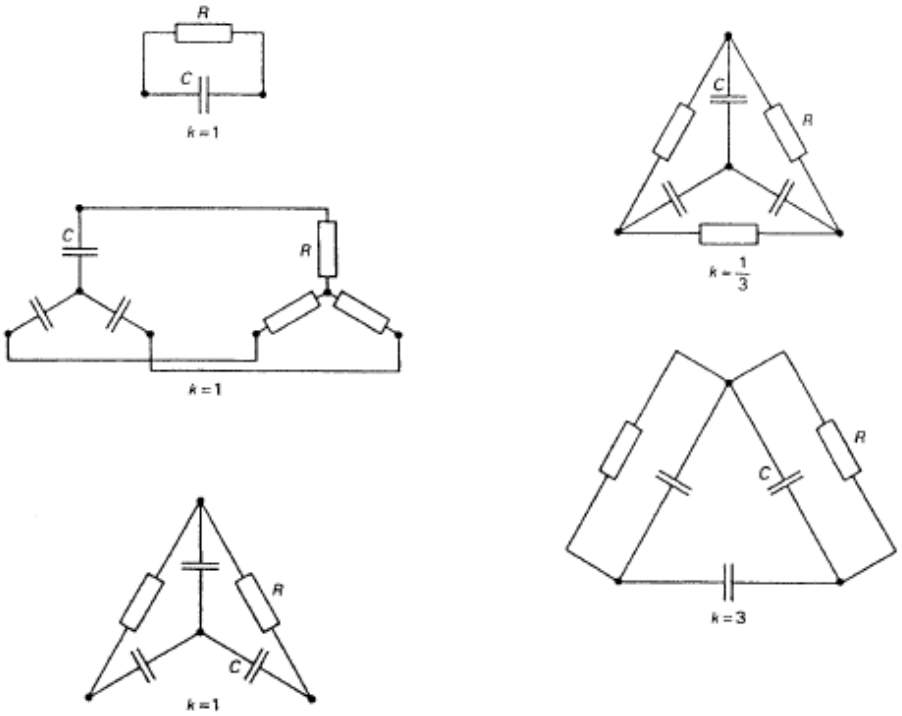
R is equals discharge resistance in Megohms [$M\Omega$]

C is the rated capacitance in µF per phase.

$U_N$ is the rated voltage of unit in volts [V]

$U_R$ is the permissible residual voltage in volts [V]

k is the coefficient depending on the method of connection of the resistors to the capacitor



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NGM (Hereafter called company), warrants to the purchaser that capacitors Manufactured by Company are free from defects in materials, workmanship and title From one year from date of shipment; and this warranty is conditional based on proper Installation, use an maintenance.

NO OTHER WARRANTIES ARE MADE, EITHER EXPRESSED OR IMPLIED (INCLUDING, WITHOUT LIMITATION WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). PURCHASER RETAINS RESPONSABILITY FOR THE APPLICATION AND FUNCTIONAL ADEQUACY OF THE CAPACITOR.

LIMITS OF LIABILITY. Under no circumstances will the company be liable for Consequential, incidental or exemplary damages; and the Company liability for any claim Shall not exceed Purchaser's cost from the Company of specific capacitor(s) that generates such claim.



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