<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
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<td>• Low Voltage Fixed Unfused Capacitor Banks</td>
<td>11-2</td>
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<tr>
<td>• Low Voltage Fixed Fused Capacitor Banks</td>
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<tr>
<td>• Automatic Power Factor Capacitor Banks</td>
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<tr>
<td>• Power Factor Correction Selection Data</td>
<td>11-12</td>
</tr>
</tbody>
</table>
LV Dry Fixed Fused Power Factor Correction Capacitors

Class 5810

Low Voltage Fixed Capacitors

ReactiVar® fixed low voltage capacitors are ideally suited for power factor correction applications where the load does not change or where the capacitor is switched with the load, such as the load side of a motor starter. ReactiVar® fixed capacitors are best suited for applications where there are no harmonic currents or voltages present.

Features:

- **Environmentally Friendly:** ReactiVar® capacitors are constructed with a dry type metalized Polypropylene capacitor element with no liquid dielectrics. There is no risk of fluid leakage or environmental pollution and no need for a drip pan.
- **Low Loss, Long Life:** The design features less than 0.5W/kVAR losses, including discharge resistors.
- **Attractive finish:** Capacitor units feature a textured powder paint finish, ASA 49 gray. Units are constructed of 14 gauge steel and are suitable for floor or wall mounting.

Application Note: Capacitors are a low impedance path for the harmonic currents produced by variable frequency drives, motor soft starters, welders, computers, PLCs, robotics and other electronic equipment. These harmonic currents can be drawn into the capacitor causing it to overheat, shortening its life. Furthermore, the resonant circuit formed by shunt capacitors coupled with system inductances (motors and transformers) can amplify harmonic currents and voltages in the electrical network. This amplification can cause nuisance fuse operation and/or damage to electrical equipment including capacitors and other electronic devices. If power factor correction in the presence of harmonics is required, please contact your nearest Square D/Schneider Electric sales office for assistance.

Unfused 600V® 3 phase/60 Hz unit

<table>
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<tr>
<th>Kvar rating</th>
<th>Indoor NEMA 1 unit</th>
<th>Rated Current</th>
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<th>Recommended circuit protection device rating</th>
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a: Consult local electrical code for proper sizing of molded case circuit breaker frame or disconnect switch rating.
b: Unit size 1, 2 and 3 can be wall mounted.
c: Refer to page DE11-3 for dimensions.
d: Conductor should be copper and rated 90°C min. Refer to local electrical codes for proper wire size.
e: 460V is available upon request. Contact Schneider Electric PQC group for details.
LV Dry Fixed Fused Power Factor Correction Capacitors

Class 5810

Low Voltage Fixed Fused Capacitors with Blown Fuse Indicators

In addition to the comprehensive Multiple Protection System designed into the New ReactiVar® fixed, low voltage capacitors, fused units feature a fast-acting current limiting fuse in each phase. Blown fuse indicators are included as standard on indoor (NEMA Type 1) enclosures. While fuses are not required to protect the capacitor elements, external over current protection may be required by the local electrical code for protection of the conductors feeding the capacitors. Consult your local electrical code for installation instructions.

- Consult local electrical codes for proper sizing of molded case circuit breaker frame or disconnect switch rating.
- Unit size 1, 2 and 3 can be wall mounted.
- Refer to page DE11-3 for dimensions.
- Conductor should be copper and rated 90°C min. Refer to local electrical codes for proper wire size.
- 480V is available upon request. Contact Schneider Electric PQC group for details.

### Kvar rating

<table>
<thead>
<tr>
<th>Kvar rating</th>
<th>Indoor NEMA 1 unit</th>
<th>Indoor NEMA 1 unit</th>
<th>Recommended Copper wire size (90°C)</th>
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### NEMA Type 1 Enclosures dimensions

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- 20.000
- 16.150
- 14.075
- 1.065
- 0.125
- 36.000
- 32.150
- 16.875
- 14.500
- 14.500
- 3.500
- 18.000
- 14.875
- 34.000
- 3.500
- 16.875
- 14.875
- 1.065
- 36.000
- 32.150
- 16.875
- 14.500
- 14.500
- 3.500
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- 32.150
- 16.875
- 14.500
- 14.500
- 3.500
- 18.000
- 14.875
- 34.000
- 3.500
- 16.875
- 14.875
- 1.065
The AV4000 and AV5000 standard automatic power factor correction banks are designed for centralized power factor correction to supply varying amounts of reactive power required to compensate for changing load conditions. The AV4000 and AV5000 banks are ideally suited for facility electrical distribution systems with THD (total harmonic current distortion) < 5% and THD(V) (total harmonic voltage distortion) < 3%. An advanced microprocessor-based reactive power controller measures plant power factor via a simple remote CT. Plus, it switches capacitor modules in and out of service to maintain a user-selected target power factor.

Application Assistance:
The Schneider Electric Power Quality Correction Group provides engineering assistance for the application of capacitors in harmonic rich environments. Specialists at Square D can assess the likelihood of application problems and arrange for more detailed study if required. Solutions can include computer modeling and system simulation. Our application engineers can make all the arrangements for system studies, custom engineering, installation and commissioning, as required by the application. Contact Schneider Electric sale office for detail equipment quotation assistance.

Main Features:
- Modular construction; free standing QED switchboard enclosures contain up to 500 KVAR per section and allow for easy future expansion
- Standard offering available up to 400 KVAR at 208/240 Vac, 1000 KVAR at 480 or 600 Vac
- Main lugs or main breaker section at your choice
- Dry capacitor element design eliminates risk of fluid leakage, environmental hazard and drip pans
- Capacitor rated contactors are designed specifically for the switching of capacitive currents and feature a patented capacitor precharge circuit that exceeds air-core reactor transient dampening
- Three different microprocessor controller options provide functionality and control sophistication
- Backlit display on controller displays actual PF, alarms, number of steps energized and much more
- Rugged design — units are constructed with removable steel panels over heavy gauge steel frames
- Available in Type NEMA 1 indoor and NEMA 3R outdoor enclosures
- Indoor units are finished with ASA 49 grey textured paint finish
- For application up to 200 kVAR max., 480 or 600 V (main lugs, top entry only), the AV4000 offers compact and cost effective alternative.

Equipment specification:
- Voltage: 240, 480, 600 Vac standard, 208, 380, 415 Vac available
- Kvar rating: up to 1000 KVAR (depending on voltage rating)
- Ambient temperature: -5°C to 46°C
- Average temperature limit: <45°C within 24 hours, <35°C over 1 year
- Elevation: <=1800 meter
- Humidity: 0-95% non-condensing
- Overvoltage limit: 110% maximum
- Withstand test level: 2.15 times rated voltage or 1000 V, whichever is higher for 10s
- Overcurrent limit: 130% maximum
- Incoming: Top (standard), bottom, side
- Main lug: Mechanical standard, compression optional
- Main breaker: PowerPactÒ with MicrologicÒ trip unit. LI standard, LSI, LSIG available
- Enclosure rating: NEMA 1 standard, N3R available
- Color: ANSI 49 standard, ANSI 61, ANSI 70 optional
PFC Capacitor Banks

Class 5860

Low Voltage Anti-Resonant and Filtering Automatic Capacitor Banks with Main Lugs and Breaker

ReactVar® AV6000 anti-resonant and AV7000 harmonic filtering automatic switched capacitor banks are specifically designed for networks containing harmonic energies which would otherwise damage standard fixed or automatic capacitor banks.

The problem: Harmonics are a natural by-product of non-linear loads such as variable frequency drives, motor soft starters, welders, uninterruptable power supplies, robotics, PLCs and other electronic devices. Harmonics introduce higher-than-60 Hz current and voltage components into the electrical distribution system. Capacitors are a low impedance path for these higher frequency components and thus will absorb these harmonic energies. Combinations of capacitors and system inductances (motors and transformers) can form series and parallel tuned circuits which can resonate at certain frequencies. The harmonics produced by non-linear loads can excite a standard capacitor bank into resonance. The resonance can magnify currents and voltages, causing system wide damage and equipment failure. This problem is growing in prevalence.

The solution: Anti-Resonant Automatic Switched Capacitor Banks

The AV6000 anti-resonance capacitor bank’s primary function is power factor correction. Iron core reactors are added in series with the capacitor modules. The 3-phase reactors are custom designed and manufactured at our factory under tight tolerances specifically for the AV6000. The reactors tune the bank below the first dominant harmonic (usually the 5th, or 300 Hz). Below the tuning point, the system appears capacitive and thus corrects power factor. Above the tuning point, the system appears inductive and thus resonance is minimized. The AV6000 design has the added advantage of removing up to 50% of the 5th harmonic to reduce overall voltage distortion.

Harmonic Filtering Automatic Switched Capacitor Banks

The need for an AV7000 is usually determined by a power quality specialist. Although the AV7000 looks identical to the AV6000, its primary function is harmonic mitigation, with power factor correction being a secondary benefit. The distinction between an AV6000 and an AV7000 is in the tuning point. By definition, if the tuning point of the capacitor/reactor combination is within ±10% of the target harmonic it is intended to absorb, it is referred to as a filter. If the tuning point is outside the ±10% limit, it is referred to as an anti-resonant system. As the tuning point of the system approaches the target harmonic, its effectiveness at absorbing increases. Hence, the need to classify its functionality. The PQc group should always be consulted prior to recommending it to customers.

Main Features

- Standard offering available up to 1200 KVAR at 480 or 600 Vac
- Capacitor modules are designed with higher than standard voltage and current ratings to provide long life on systems with high harmonic energies. Reactors are designed to operate at 115°C rise over a maximum 40°C ambient temperature.
- In addition to the standard features provided in the AV5000 systems, the reactors in the AV6000 have an embedded thermistor temperature detector. The stage will shut down and annunciate if the reactor should overheat, usually a result of excessive harmonic energies.

Application Assistance

The Schneider Electric Power Quality Correction Group provides engineering assistance for the application of capacitors in harmonic rich environments. Specialists at Square D can assess the likelihood of application problems and arrange for more detailed study if required. Solutions can include computer modeling and system simulation. Depending on the network, the solution may include de-tuned banks (AV6000) or fully filtered banks (AV7000). Our application engineers can make all the arrangements for system studies, custom engineering, installation and commissioning, as required by the application. Contact Schneider Electric sales office for detail equipment quotation assistance.

Equipment specification:

- Voltage: 480, 600 Vac standard, 380, 415 Vac available
- Kvar rating: up to 1200 KVAR (depending on voltage rating)
- Ambient temperature: -20°C to 48°C
- Average temperature limit: <45°C within 24 hours, <35°C over 1 year
- Elevation: <=1800 meter
- Humidity: 0-95% non-condensing
- Overvoltage limit: 110% maximum
- Withstand test level: 2.15 times rated voltage or 1000 V, whichever is higher for 10s
- Overcurrent limit: 130% maximum
- Incoming: Top (standard), bottom, side.
- Main lug: Mechanical standard, compression optional
- Main breaker: PowerPact® with Micrologic® trip unit. LI standard, LSI, LSIG available
- Enclosure rating: NEMA 1 standard, N3R available
- Color: ANSI 49 standard, ANSI 61, ANSI 70 optional
PFC Capacitor Banks

Class 5870

Low Voltage Transient Free Reactive Compensation

Capacitor Banks

Square D® ReactiVar® Transient Free Reactive Compensation (TFRC) anti-resonant (A/BT6000) Systems and filtering system (A/BT7000) are ideally suited for use on electrical systems where connected equipment is extremely sensitive to variations in the supply voltage.

The problem: Capacitor systems featuring electromechanical contactors generate Voltage transients on the electrical network when switching capacitor stages on/off, even when current limiting or tuning reactors are employed. Transients can impair the operation of sensitive equipment, including programmable logic controllers, variable speed drives, computers and UPS systems. In sensitive networks such as hospitals, data processing centers, airports and many manufacturing environments, any transient, however slight, may not be acceptable.

The solution: TFRC systems feature an advanced controller to precisely activate electronic switching elements to connect capacitor stages and avoid the creation of transients. Transient free switching also reduces wear on capacitors due to switching and will result in longer life for the overall capacitor system. A/BT6000 systems are available. The Reactor system is an advanced anti-resonant, de-tuned system, while the AT7000 filtered system can eliminate any harmonic component on the network. TFRC systems are ideally suited for use on electrical systems where connected equipment is extremely sensitive to variations in the supply voltage.

Main Features:
- Standard offering up to 1350 KVAR at 480 or 600 Vac
- Transient free switching of capacitor steps
- Electronic switching elements yield an unlimited number of switching operations
- Three different microprocessor controller options provide a choice in functionality and control sophistication
- Backlit display on controller displays actual PF, alarms, number of steps energized and much more
- Heavy duty dry capacitor element design provides no risk of fluid leakage, no environmental pollution and no need for drip pans
- The Reactors have an embedded thermistor temperature detector. The stage will shut down and annunciate if the reactor should overheat, usually a result of excessive harmonic energies
- Units are constructed with removable heavy duty steel panels over a 12 gauge steel frame.
- Indoor Type 1 units finished with ASA 49 gray polyester paint. Other colours available.

Application Assistance

The Schneider Electric Power Quality Correction Group provides engineering assistance for the application of capacitors in harmonic rich environments. Specialists at Square D can assess the likelihood of application problems and arrange for more detailed study if required. Solutions can include computer modeling and system simulation. Our application engineers can make all the arrangements for system studies, custom engineering, installation and commissioning, as required by the application. Contact Schneider Electric sales office for detail equipment quotation assistance.

For dimension reference, see page DE11-7.

Equipment specification:

Voltage: 480, 600 Vac standard, 380, 415 Vac available
Kvar rating: up to 1350 Kvar (depending on voltage rating)
Load change response time: <10 seconds
Ambient temperature: -5°C to 46°C
Average temperature limit: <45°C within 24 hours, <35°C over 1 year
Elevation: <=1800 meter
Humidity: 0-95% non-condensing
Overvoltage limit: 110% maximum
Withstand test level: 2.15 times rated voltage or 1000 V, whichever is higher for 10s
Overcurrent limit: 130% maximum
Incoming: Top (standard), bottom, side.
Main lug: Mechanical standard, compression optional
Main breaker: PowerPact® with Micrologic® trip unit. LI standard, LSI, LSIIG available
Enclosure rating: NEMA 1 standard, N3R available
Colour: ANSI 49 standard, ANSI 61, ANSI 70 optional
Low Voltage Capacitor Banks
Class 5830, 5860, 5870

CT Selection Guide for Class 5830, 5860 & 5870
The current transformer is located on a phase A bus or cable at the main service entrance as illustrated in Diagram 1. The CT should be sized for the maximum load current. The CT should be installed upstream of the capacitor bank and plant loads to measure the combined current.

CT catalogue number: TRAI••••SC
- •••• is current rating code of bus/cable and
- SC is window size code. Codes are listed in table to the right.

e.g. TRAI1000SC07 is a CT for 1000 A bus with 7" x 4" window.

Enclosure dimensions

New product dimension information will be updated via on-line version in 2009.
Medium Voltage Capacitor Systems
Class 5840, 5841

Power factor correction, harmonic mitigation, and voltage support in medium voltage electrical systems. Custom engineered for steady and rapidly fluctuating loads.

ReactiVar® Medium Voltage Fixed Power Factor Capacitors
The ReactiVar® MVC fixed capacitors are ideally suited for power factor correction in applications where the load does not change or where the capacitor is switched with the load, such as the load side of a motor contactor. Reactivar capacitors are available up to 300 kVAR as individual units, and up to 800 kVAR in banks. Unfused or fused (2 fuses) assemblies are available. Other ranges available upon request.

Features:
• Fused and unfused applications
• Up to 600 kVAR, 4800 V
• Metalized polypropylene film capacitors for low dielectric loss
• Internally mounted discharge resistors
• Operating temperature range of –40°C to +65°C
• Built to UL, CSA and IEC standards
• Available in indoor (Type 1/12) and outdoor (Type 3R) enclosures
• Painted ASA 61 gray

Lead time: 12–14 weeks typical

Prices & assistance: Call PQc Group at 1-800-265-3374 or email pqc@ca.schneider-electric.com

Literature: for additional information refer to www.reactivar.com

Reactivar Medium Voltage Metal Enclosed Automatic Capacitor Banks (MV5000/MV6000/MV7000)
The Reactivar medium voltage automatic capacitor banks are ideally suited for centralized power factor correction and/or harmonic filtering in applications where plant loading is constantly changing, resulting in the need for varying amounts of reactive power. All MV capacitor systems are custom-engineered to meet project specific application and installation needs.

Features:
• Standard metal enclosures available up to 20,000 kVAR, 5/15 kV, 50/60 Hz.
• The Square D HVL load interrupter switch (fused or unfused).
• Externally fused Schneider Electric PR04P1VAR or Cooper capacitors with excellent life due to high temperature withstand, small temperature rise, chemical stability, overvoltage and overcurrent withstand. (Internally fused capacitor available upon request).
• Three-bushing capacitor cells connected in delta available up to 5 kV. Two-bushing capacitor cells connected in ungrounded wye for higher voltages.
• Current limiting capacitor fuses with blown fuse pop-up indicators.
• Current limiting reactors in multi-step MV5000 standard systems to limit high capacitor inrush currents.
• Iron core reactors in MV6000 de-tune banks to prevent resonance and remove up to 50% of the 5th harmonic.
• Heavy-duty iron core reactors in MV7000 filtered banks for effective 5th harmonic filtering.
• Available in Type 1 indoor and 3R outdoor enclosure types.
• Key interlocking system forces sequential operation of the controls, non-load break switch (or circuit breaker) and ground switches.
• Superior Square D Varlogic® microprocessor based power factor controller.
• The Schneider Electric SEPAM relay provides unbalance, overvoltage and overcurrent protection.

Lead time: 16–20 weeks typical

Prices & assistance: Call PQc Group at 1-800-265-3374 or email pqc@ca.schneider-electric.com

Literature: for additional information refer to www.reactivar.com

MVC systems are suitable for power factor correction of steady harmonic-free motor loads.

MV5000 systems are suitable for use where harmonic generating loads are less than 15% of the total connected load.

MV6000 systems are suitable for use where harmonic generating loads exceed 15% of the total connected load.

MV7000 systems are suitable for use where harmonic generating loads exceed 50% of the total connected load.

MVHVC High-Speed compensation systems are designed for compensation of rapidly fluctuating loads.

MVHVC High-Speed compensation systems are designed for compensation of rapidly fluctuating loads.
The problem:
High levels of harmonics generated by non-linear loads can have significant negative impact in the facility electrical system. It can cause malfunction of the equipment, disrupt plant operation, thus, resulting loss of productivity.

Harmonic filtering:
The AccuSine Power Correction System (PCS) is Active Harmonic Filter (AHF) which actively injects opposite harmonics current on the source side of the load and it:
- Decreases harmonic related overheating of cables, switchgear and transformers
- Reduces downtime caused by nuisance thermal tripping of protective devices
- Increases electrical network reliability and reduces operating costs
- Corrects to the 50th harmonic, reduces harmonics level to meet IEEE 519, IEC 61000 3-4, and UK G5/4-1 standards.
- Compensates entire network or specific loads depending on installation point

Power Factor Correction and Dynamic VAR Compensation:
AccuSine PCS features a 100 microsecond response providing for dynamic VAR injection to reduce voltage sags created by inductive load switching. In addition, AccuSine PCS can inject peak current at 2.25 times its rms current rating for 3 cycles. AccuSine PCS can also operate in a dual mode where current is first injected to reduce harmonics and any excess current capacity is used to improve the power factor.

Other Features:
- Independent phase compensation
- UL, CE, ABS, and CSA approved
- Parallel connection allows for easy retrofit and installation of multiple units for large networks
- Responses to load fluctuations begin in 100 microseconds with 1/2 cycle for full response to step load changes

AccuSine PCS Sizing
For proper sizing of AccuSine units, contact the Schneider Electric Power Quality Correction Group at 1-800-265-3374. To expedite the product selection process, please have a single line diagram and/or details of the application including sizes of transformers, non-linear and linear loads, and any existing filters and capacitors.

### AccuSine PCS—208–480 V, 50/60 Hz

<table>
<thead>
<tr>
<th>Current (A)</th>
<th>Max. Reactive Power (kVAR)</th>
<th>Frequency (Hz)</th>
<th>Catalogue Number</th>
<th>Price</th>
<th>kW</th>
<th>W</th>
<th>A</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>30</td>
<td>61.7</td>
<td>PCS050D5N1</td>
<td>NEMA 1 Wall Mount Bottom</td>
<td>46.0</td>
<td>1219</td>
<td>25.7</td>
<td>526</td>
</tr>
<tr>
<td>50</td>
<td>30</td>
<td>61.8</td>
<td>PCS050D5N12D</td>
<td>NEMA 12 Wall Mount Top/Bottom</td>
<td>75.0</td>
<td>1905</td>
<td>31.3</td>
<td>801</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
<td>63.2</td>
<td>PCS050D5N125SC</td>
<td>NEMA 12 Wall Mount Bottom</td>
<td>64.9</td>
<td>1649</td>
<td>25.7</td>
<td>526</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>63.1</td>
<td>PCS050D5N126SD</td>
<td>NEMA 12 Wall Mount Top/Bottom</td>
<td>90.7</td>
<td>2303</td>
<td>28.4</td>
<td>1080</td>
</tr>
<tr>
<td>50</td>
<td>300</td>
<td>63.1</td>
<td>PCS050D5N126SD</td>
<td>NEMA 12 Wall Mount Top/Bottom</td>
<td>90.7</td>
<td>2303</td>
<td>28.4</td>
<td>1080</td>
</tr>
</tbody>
</table>

- **a**: Other voltages available. Contact your nearest Schneider Electric sales office. Multiple units can be connected in parallel for larger capacities.
- **b**: Dimensions and weights are approximate. Do not use for construction. For actual dimensions, contact your nearest Square D/Schneider Electric sales office.
- **c**: CE Certified units meet EMC Directive 89/336 EEC.
- **d**: Floor standing units include a door-interlocked main disconnect.
- **e**: C = 380-415 V; D = 480 V.

**NOTE:** Refer to page DE11-10 for CT details.
The Hybrid VAR Compensator (HVC) is ideally suited for industrial facilities with power quality or production problems caused by rapidly changing load demands typical of highly cyclical loads such as welders, mining conveyors and heavy stamping machines.

The problem:

Traditional capacitor systems have a minimum response time of five to ten seconds to load fluctuations. As a result of this limitation, uncompensated faster loads can produce voltage instability, voltage flicker, increased losses and poor power factor which reduces the electric supply capacity. Problems can often be seen inside the facility, on the utility feeder to the facility or in neighboring facilities. Problems can include:

- Poor weld quality or reduced weld line productivity (due to restrikes or interlock weld controls)
- Failure to start motor loads (due to voltage sag on startup)
- Undervoltage tripping of sensitive loads (Robots, PLCs, VFDs)
- Lighting flicker and/or HID lighting shutdown
- Overloaded distribution equipment (cyclical current pulses may exceed the rated current of the distribution equipment)
- High power factor and associated utility demand charges
- High harmonic levels

Ultra-Fast Reactive Power Solution:

- The Hybrid VAR Compensator is ideally suited for power factor correction and voltage sag support in many applications where conventional systems are not suitable:
  - One cycle (16.7 ms) or less for full response
  - Infinite VAR resolution
  - Compensates for large inductive inrush currents
  - Transient free compensation
  - Improves voltage regulation
  - Reduces flicker

HVC systems can alleviate any of the problems created by cyclical loads that require large amounts or reactive power for short duration.

Unique, cost-effective construction:

HVC systems couple a detuned capacitor system (fixed, contactor or power electronic switched) with the Accusine® Electronic VAR Control (EVC) unit. The Accusine EVC is able to inject leading or lagging VARs to provide variable compensation over the operating rating. For example, coupling a 500 kVAR fixed detuned bank with a 300 A Accusine EVC yields an HVC that can provide reactive compensation between 250 kVAR and 750 kVAR.

Custom Designed Solution:

Sizing of the HVC will often require a site visit by Square D Power Quality Correction Group technicians to take real-time measurements of the network. Please contact the PQc group at 1-800-265-3374 or email pqc@ca.schneider-electric.com

Round Split-Core CT Selection

Three CTs required for networks with line-neutral loads. Two remote current transformers required for three phase loads. For installations requiring parallel connection of multiple Accusine for increased correction capacity, special considerations may be required. Contact the Square D Power Quality Correction Group for details.

<table>
<thead>
<tr>
<th>Amplitude</th>
<th>Catalogue No.</th>
<th>Dimensions (inch)</th>
<th>Capacity (kVAR)</th>
<th>Weight (lbs.)</th>
<th>Accuracy</th>
<th>Service</th>
<th>Secondary</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000</td>
<td>CT10000SC</td>
<td>3.5</td>
<td>5000</td>
<td>65</td>
<td>3%</td>
<td>50 VA</td>
<td>3 A</td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td>CT6000SC</td>
<td>3.5</td>
<td>3000</td>
<td>45</td>
<td>3%</td>
<td>50 VA</td>
<td>3 A</td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>CT3000SC</td>
<td>3.5</td>
<td>1500</td>
<td>35</td>
<td>3%</td>
<td>50 VA</td>
<td>3 A</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions may also be available contact PQc group.
Therefore:

desired PF of .90. This FACTOR is read to be .685.

From the kW FACTOR table, find the FACTOR that applies to a system with an original PF of .65 and desired PF of .90. This FACTOR is read to be .685. Therefore:

\[ kVAR = 620 \times 0.685 = 425 \text{ kVAR} \]
When contacting the Power Quality Correction Group for application assistance, please have the following information available:

- Transformer(s) Size: kVA (Note, indicate multiple transformers)
- Percent Impedance: %
- Transformer Primary: V
- Transformer Secondary: V
- Primary Fault Current: kA
- 12 months utility billing information

Major Loads, including existing capacitors (fill in table below):

<table>
<thead>
<tr>
<th>Feeder ID</th>
<th>Ampacity</th>
<th>Linear Loads (kVA)</th>
<th>Non-linear Loads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder 1</td>
<td>600 A</td>
<td>150 HP FVNR</td>
<td>50 HP VFD’s</td>
</tr>
<tr>
<td>Feeder 2</td>
<td>800 A</td>
<td>450 HP FVNR</td>
<td>200 kW Welding</td>
</tr>
<tr>
<td>Feeder 3</td>
<td>1000 A</td>
<td>50 kVAR Capacitor</td>
<td>800 A Injection Molding</td>
</tr>
</tbody>
</table>

Include a simple one-line diagram of the network indicating major loads:

It is usually necessary to measure the network when multiple substations are involved. The reason is that harmonic currents can flow from one substation to another in response to changes in the network impedance brought on by the installation of power factor capacitors. In cases such as this, contact the PQc group for assistance.

Fax completed form to: Power Quality Correction Group
(905) 678-5979

Your Name: 
Job Name: Q2C#:
Location: 
Telephone: 
Fax: