

CUSTOM SOLUTIONS

At Acme Electric, our synergy of vast electrical expertise and manufacturing technologies brings engineering marvels to life.



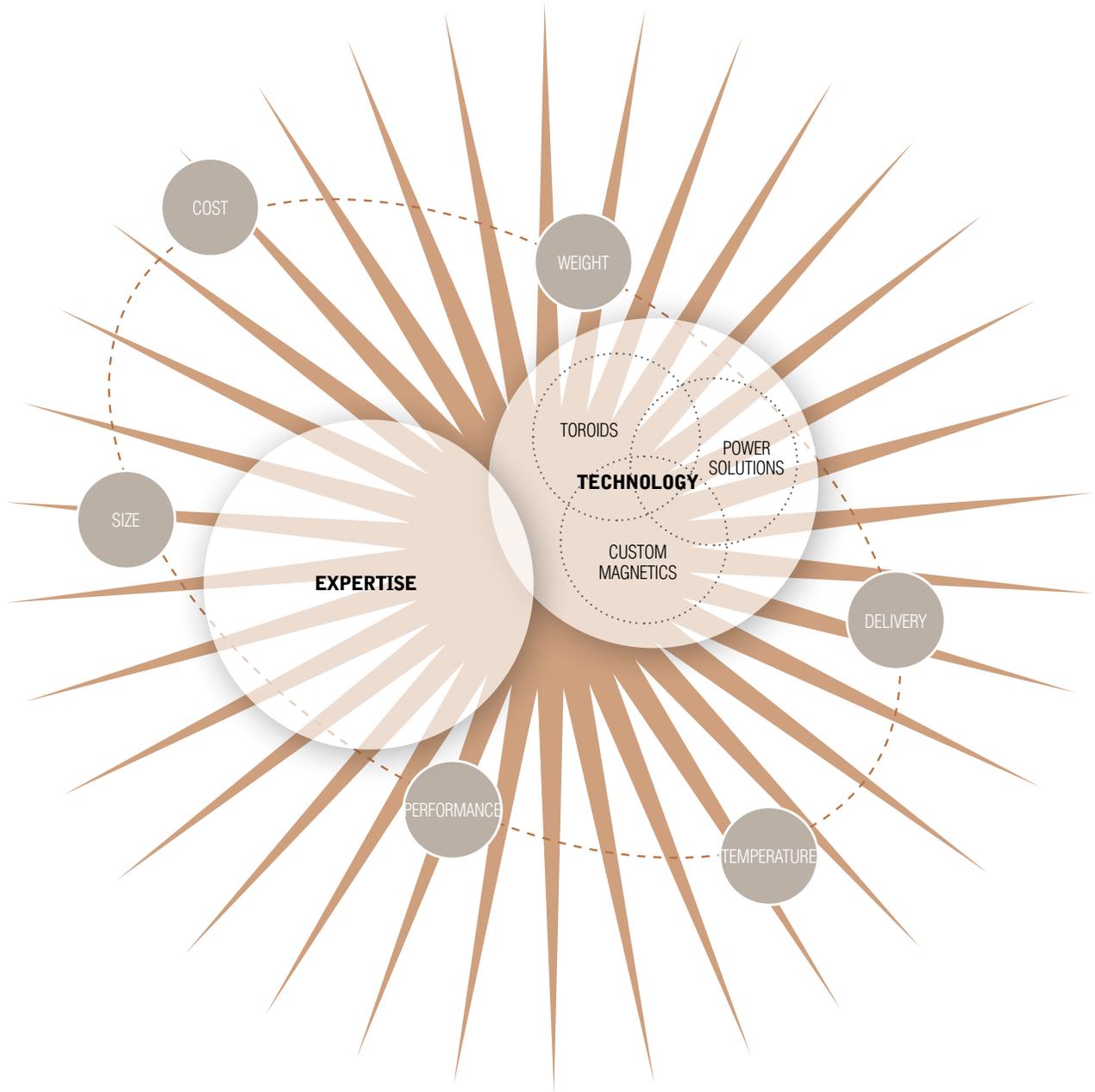
PERFECTED MAGNETICS. EVERYTIME.

For more than 150 years, engineers worldwide have trusted our design and manufacturing expertise to deliver solutions that precisely match application and performance requirements.

Our vast product selection and manufacturing capabilities provide the magnetic solution that performs to your project requirements, without compromise. We build them right with time-tested designs that stand up to the highest quality benchmarks. In fact, we meet or exceed internationally recognized standards across each manufacturing process.

PARTNERS IN EXCELLENCE

Beyond simply supplying specified solutions for a given application, it's a partnership in the truest sense of the word. Our teams of knowledgeable professionals can provide you with support throughout the development process, from concept to design completion and into production.



SOLUTIONS FOR YOUR MARKETPLACE

You'll find our products and components in a wide array of applications and industries across the globe, on land, on water, and in the air. Here are just a few of the different markets we serve:



Alternative Energy

As the world searches for ways to replace fossil fuels with sustainable alternatives, improving efficiency is the key to success in harnessing the full potential of new power sources. We can help you:

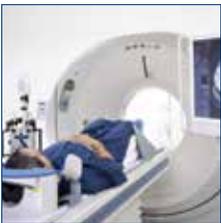
- Maximize the energy harvest with high-efficiency magnetic components
- Comply with global safety agency regulations
- Deliver the best technology for the lowest possible cost



Aerospace and Military

Meeting the strict requirements of aerospace and military customers means following specifications to the letter. Our engineers are ready to help you meet and/or exceed your application requirements with:

- Robust designs that resist high levels of shock and vibration
- Compact designs that minimize weight
- Manufacturing facilities approved by the State Department
- High-temperature designs
- Chemical-resistant encapsulations



Medical Equipment

Technology is playing an ever-increasing role in health care today, and we can help you meet the unique requirements of the clinical environment with:

- Safe and robust designs that meet UL60601/EN60601 compliance standards
- Minimum electrical interference with patient monitoring equipment
- Quiet operation to minimize disturbance of patients and clinicians
- Low standby power consumption that saves energy and utility costs



Smart Grid

Improving the efficiency and intelligence of our nation's electric infrastructure is a top priority for achieving sustainability and energy independence. We're helping OEMs achieve that goal:

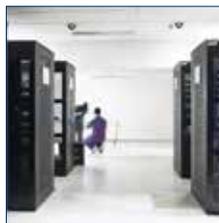
- Robust designs for long, dependable service
- Precision manufacturing for accurate metering and sensing
- Greater value for lower overall cost
- High-efficiency designs to minimize waste and reduce heat generation



Industrial Controls

Industrial settings can present a variety of challenges for electronic equipment, because every component has to stand up to harsh conditions. Our solutions can help your products with:

- Robust performance over a wide range of operating temperatures
- Protection from hazardous or dirty environments
- The best technology at the lowest possible cost
- Dependable operation over millions of cycles, 24/7, 365 days a year



Power Quality

Mission-critical systems in any industry need clean, dependable power 24/7, and our solutions help our customers deliver the reliability these systems demand:

- Superior technology tailored to your exact needs to minimize cost
- Small, low-profile designs for easy integration
- High efficiency to maximize battery life in UPS applications

CUSTOM MAGNETICS

Custom High-Frequency Designs

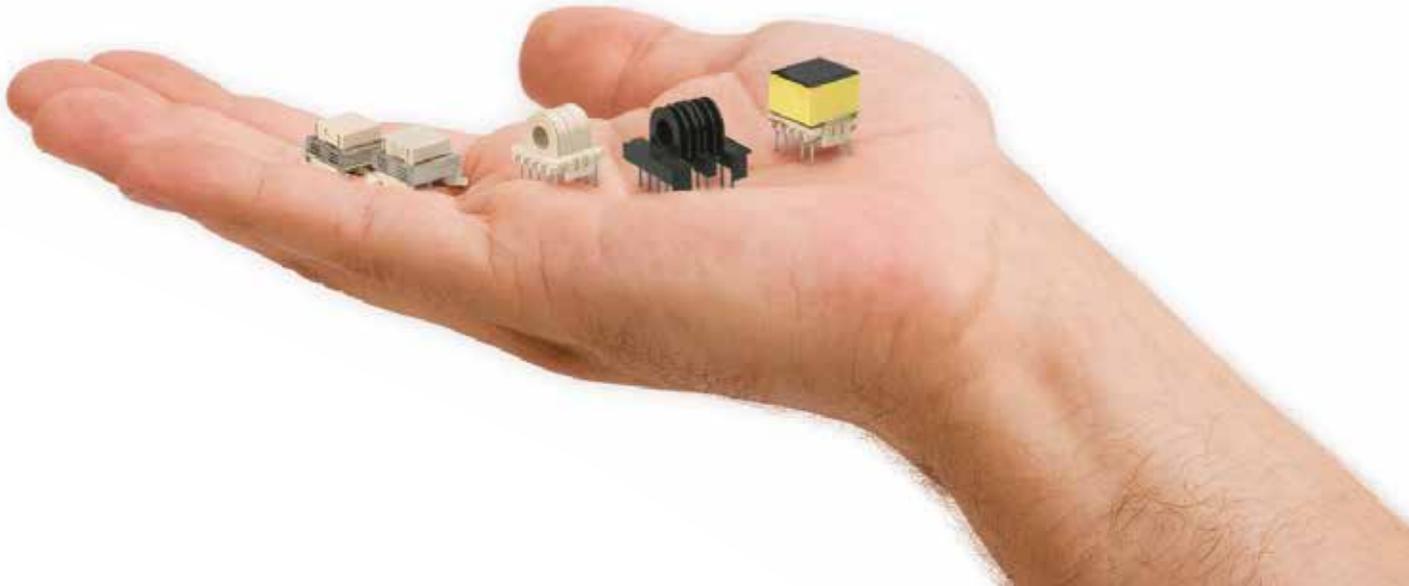
The Actown brand of Acme Electric custom designs and builds high-frequency magnetics. From large, 10,000 lb custom magnetics to ones that you can arrange in the palm of your hand, we design our specialized products to push the boundaries of size, weight, performance and endurance. Our success lies in our accessibility to a wide range of manufacturing processes from around the globe. We harness those capabilities as we work with you from initial concept all the way through to testing and final production.

Custom Power Magnetics Capabilities

Today's power magnetics need to meet extraordinary performance and dependability standards. Acme's design and manufacturing teams deliver a wide range of products for applications, including low noise, harmonic mitigating, 12 pulse and 18 pulse drive isolation transformers; low-temperature rise, reactors and chokes; power quality and many more.

Landmark Performance From Tiny Packages

Acme's technologies enable our experts to create products for specialty applications where performance is critical. We provide the medical industry with precise output regulation through a wide range of power demands, while meeting strict safety requirements. Our products survive through the altitude and high-moisture of aerospace and military applications, while being lightweight and dependable. We help the harvesting of alternative energies by providing highly efficient magnetics that increase the feasibility of solar energy and biofuels. We're dedicated to demanding applications where unique operational goals are met and exceeded with technology that can fit in the palm of your hand.



TOROIDS

Advanced Toroid Technology

The Amveco brand of Acme Electric specializes in the design and construction of class-leading toroid magnetics in addition to standard and custom inductors, current magnetics and auto magnetics. Amveco's toroids offer numerous performance advantages with reduced stray magnetic fields, mechanical hum, no-load losses, operating temperatures, size and weight. Our toroids are found throughout the most demanding industry applications, including the medical and communications industries.

Flexible production capabilities allow for a variety of dimensions that are not limited by set standards of core cap or lamination sizes.

TIGHTpak™ Toroidal Inductors

The TIGHTpak™ technology is a revolutionary and proprietary manufacturing process unique to Acme Electric that brings toroidal inductors one step closer to ideal.

TIGHTpak™ Toroidal Inductors are designed to allow more turns per single layer of windings, allowing the engineer to work with components that exhibit behavior closer to ideal than previously possible. In addition, keeping a toroid's geometry to a single layer minimizes complexity and maximizes design efficiency. TIGHTpak™ Toroids are the ideal solution when your application requires low temperature rise, smaller footprint, low noise, or additional inductance.



(a)



(b)

These toroids illustrate how much more compactly a toroid using the new wire-forming technology **(a)** can be wound compared to a conventionally wound toroid **(b)**.



CUSTOM COILS

Acme Electric's custom coils range from a relay of simple coils wound on a bobbin to highly sophisticated encapsulated coils used to control aircraft fuel delivery. Sizes range from ultra-small, fine wire-wound sense coils for circuit breakers to very large, high-power coils for electric brakes and large contractor applications.

Depending on your needs, we can encapsulate these coils via injection molding, transfer molding, vacuum potting, and various protective air-dried or baked-on varnishes. The advantages of this superior protection include improved insulation properties and dielectric strength plus maximum structural integrity and impact resistance in all environments.

Not limited by shape or size, Acme Electric's custom coils have been used in every industry imaginable. Each custom made coil is assured to meet the highest industry standards with unsurpassed quality and tested reliability.



MEDIUM VOLTAGE TRANSFORMERS

Medium voltage dry-type transformers are used to step down incoming high voltage power to utilization voltages for residential, commercial, institutional and industrial applications. Offering many advantages over liquid-filled transformers, they are ideally suited for indoor application close to the load for more efficient distribution of power at lower operating costs.

Acme Electric medium voltage dry-type transformers are air-cooled by natural convection, eliminating the principal hazards associated with liquid-filled transformers as well as the need for expensive fireproof vaults and venting systems for toxic gas. They are generally smaller, lighter, and easier to maintain than liquid-filled transformers, requiring only occasional cleaning and inspection. They are encased in a ventilated steel enclosure with no exposed live parts, making them ideal for installation in buildings such as hospitals, theaters, schools, office buildings, and factories.

Because Acme Electric gives close attention to detail and workmanship throughout design, production, and inspection, our medium voltage dry-type transformers are designed for economical, trouble-free service for a life expectancy of 25 years or more. In particular, we optimize the design for BIL levels, short circuit strength, losses, temperature rise, corona-free operation, and low sound levels so that there is no need to over-specify to ensure quality and long, economical performance.

Basic Impulse Level

One of the most important considerations in the specification and design of medium voltage dry type transformers is the basic impulse level (BIL). This is the ability of the transformer to withstand impulse voltages impressed upon it by switching surges or lightning. BIL ratings are per IEEE Std C57.12.01.

Corona

Corona is the ionization of air surrounding a high voltage electrode. Corona discharge can reduce transformer life by

1. Gradually breaking down the chemistry of insulation system
2. Forming streamers or eroding tracks on the insulation or insulators, causing subsequent flashover
3. Reducing the transformer BIL level

Corona-free operation is a priority in all Acme Electric transformer designs. Through a combination of air spacing, insulating materials, and semiconducting tape, all of our medium voltage dry-type transformers have corona extinction levels that exceed their operating voltage level.





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