

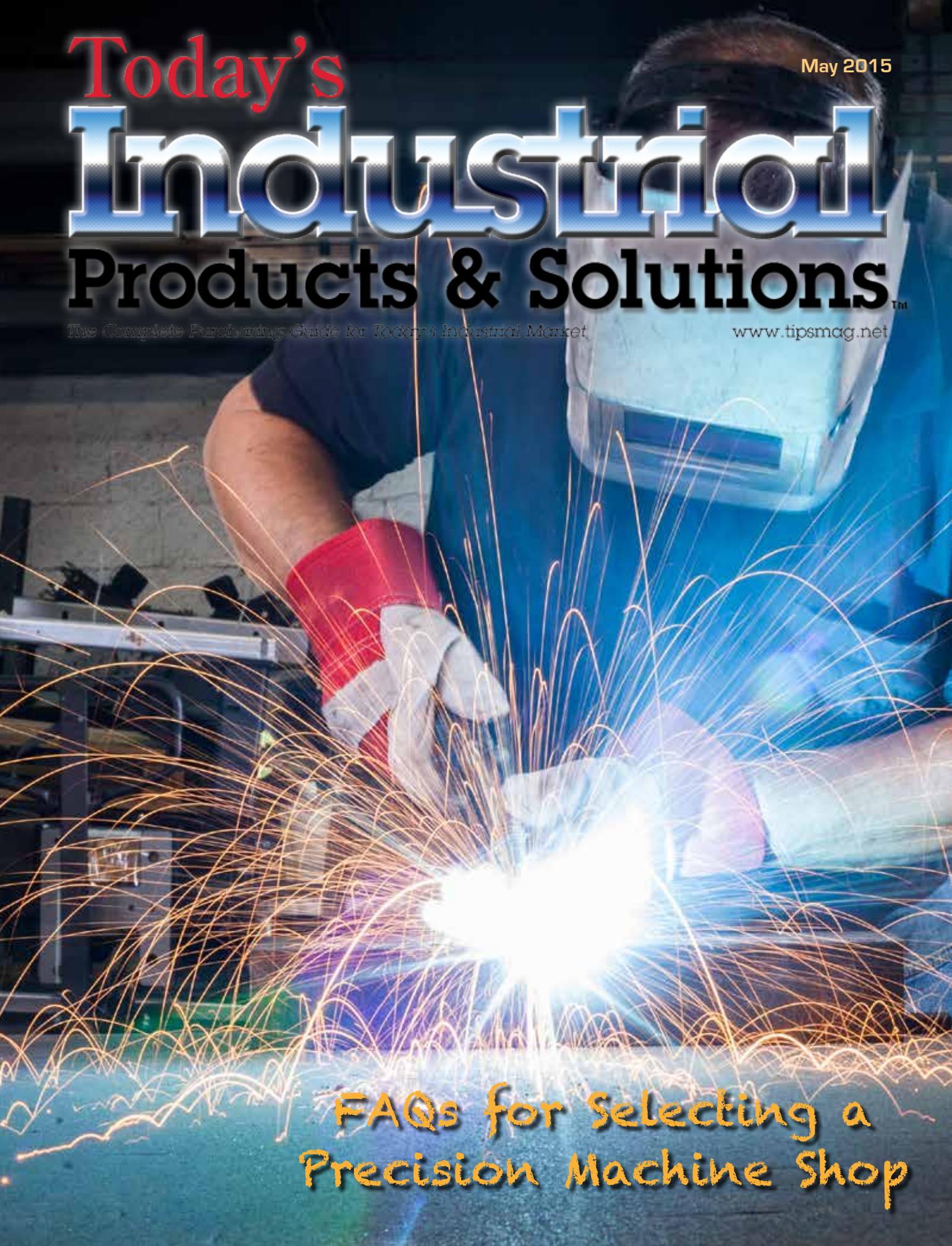
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May 2015

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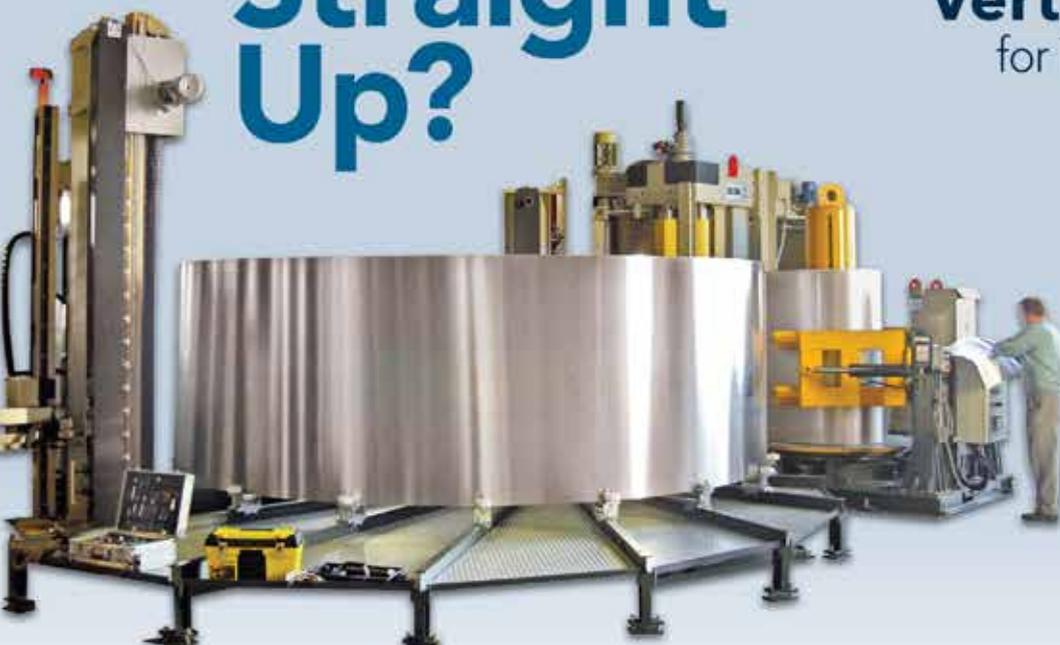


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FAQs for Selecting a Precision Machine Shop



Answers to frequently asked questions can help OEMs find a reliable CNC machine shop for high tolerance work that is also competitively priced

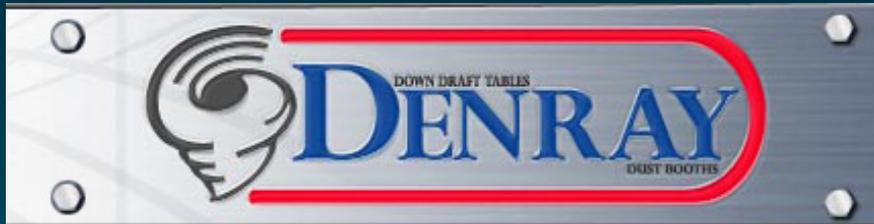
In industries like aerospace, defense, and medical, finding a CNC parts manufacturer capable of delivering the necessary quality, fast and reliable delivery, and competitive price can seem an elusive combination. It is akin to discovering the rare five-tool player in baseball that can hit for average, with power, field, throw and base-run that doesn't have a record-breaking contract.

Fortunately, such precision shops do exist. The difficulty, however, is in finding a shop that will actually deliver all that it promises in reality, and not just on paper.

Muddying the water, CNC shops – whether reliable and skilled, or not – all claim to deliver all of the above and more. Many have the same type and quality of machining equipment, but that alone doesn't make for consistent parts, every time. Quality standards such as ISO and AS certifications go a long way, but these are also not enough to separate the best from the rest.

And then there is price. While not as important as quality for industries such as aerospace, defense, and medical equipment manufacturing, if the choice is between parts manufacturers that on paper appear similar, it will become a determining factor. But if the price is too good to be true, it probably is, and the result can be sub-par quality, missed deadlines, higher total overall costs, failures in the field, damage to reputation, and even litigation.

So how can OEMs choose the right shop for parts? While there is no magic bullet, the answers to a few FAQs will go a long way toward selecting a CNC machine shop that can deliver the requisite combination of consistent high quality, speedy delivery, and competitive cost.



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For high tolerance work, how do machine shops ensure perfect quality every time?

'Perfect' quality means that when an OEM places an order for parts, they will be within the tolerances specified. These tolerances can be .0001" and tighter and applies to straightness, hole size, outer diameter (OD), inner diameter (ID), and other size/shape specifications.

"Industries such as medical, aerospace, or defense, require 'perfect' quality because you can't have one part compromising the quality of the assembled system," says Gary Romig, Founder and CEO of Summit Steel and Manufacturing (summitsteelinc.com), a metal component fabrication provider in Reading, Pa. "If one part goes into an assembly of 100 parts, and 99 are perfect, the single imperfect part can prevent product assembly or render the product defective and undeliverable."

Quality is usually measured in rejection rate, measured in parts per million. Today, the acceptable rate of rejection continues to drop lower, heading toward the ideal of zero.

To produce a perfect part each time, CNC machine shops look for ways to continually improve and maintain tooling, check fixtures and upgrade to the latest, state-of-the-art equipment.

Each new generation of CNC equipment, after all, is typically more precise, programmable, and faster than the one that preceded it. Summit Steel, for example, budgets a sizeable portion of its revenue to routinely upgrade to the newest CNC mills, lathes, and Swiss screw machines.

CNC machine shops also look to acquire the highest quality metals and materials, since these workflow through the shop with fewer problems and produce higher quality components. Purchasing

from prime sources with full traceability is also essential to ensure that quality begins with the raw materials.

Another way parts manufacturers maintain consistent quality is by investing in automated inspection and measuring equipment, such as coordinate measuring machines (CMM). Instead of manual measurement, which can lead to inconsistent results, CMM utilizes computer-controlled touch probes to measure various aspects of a part.

Although perfect quality does come at a price, the higher price up front often saves money on the back end.

"For the OEM, perfect quality means they don't have to reject the part, send it back, have it reworked and delay their deliveries. For the OEM's customer, it gives them assurance the product they purchase will work as promised every time," says Romig.

How do I select a parts manufacturer with confidence they will deliver the quality they promise?

Auditing a machine shop and visiting the facility can provide an OEM with a great deal of assurance that a high tolerance parts manufacturer will be able to deliver a high-valued part every time.

Check for capacity availability, quality control and testing systems (including how often the instrumentation is re-calibrated). The OEM should also evaluate the staff they meet in regards to how well they understand their quality needs.

In addition, ask about the equipment. As mentioned, precision



use capabilities and upgraded their facilities fabrication company.



Full-service metal fabrication company with secondary operations under one roof can streamline the supply chain.

machine shops should be continually investing in the latest equipment. At Summit Steel, this is done on a tightly regulated automatic schedule of replacement.

Finally, cleanliness and shop organization can also be major indicators of the quality of the overall operation.

“When an OEM visits a machine shop, they should find it clean, organized, and precise,” says Romig. “It should be a state-of-the-art facility with the latest equipment. Quality shops welcome audits and visits from potential customers.”

What is the best way to ensure on-time delivery without fail?

Most delivery date delays are caused by shipping to multiple companies and locations for secondary operations such as part finishing, forming, coating, welding and assembly. Any errors along the way only increase the delays, particularly if a vendor blames a sub-contractor for the error and will not take responsibility for correcting it.

For this reason, more parts manufacturers are adding ancillary services that go beyond traditional machining techniques.

“The surest way to guarantee on-time delivery is to work with a vendor that offers a full-range of primary and secondary machine shop services, that will take full responsibility without dropping the baton,” says Romig, who has expanded Summit Steel’s in-house offerings over time to include laser cutting, centerless grinding, powder coating, welding and assembly all at the Reading plant. “When all necessary processes are done under one roof, rather

than shipped out to a series of vendors, delivery times can often be cut by a month or more.”

Often, speeding turnaround and reducing costs simply comes down to working with a machine shop that spends the time to ask questions and really understand the customer’s expectations.

“Speeding turnaround is often directly related to asking all the correct questions up front,” says Romig, whose company typically ranges from 95 to 98 percent on-time delivery each month. “There are always different ways to achieve the blueprint tolerances, but sometimes unique tolerances are required for a part, sometimes not. Asking the right questions saves lots of time when it’s time to run the parts.”

Are there other ways to keep costs down, without compromising quality?

When it comes to CNC machine shops, sometimes bigger is better.

Smaller machine shops typically buy in small quantities from metal service centers that include a middleman mark-up. Some larger metal fabricators, on the other hand, have the buying power to purchase large quantities direct from the mill. These savings are then passed along to the OEM.

“Buying direct in bulk from metal manufacturers, not distributors, removes a whole layer of cost mark-up from the buying process,” says Romig. “It can translate into a savings of several percent even before the part is made.”

For more info, call 610-921-1119; Fax 610-921-3251; email SummitSales@SummitSteelinc.com; visit www.summitsteelinc.com; or write to Summit Steel and Manufacturing at 1005 Patriot Parkway, Reading, PA 19605. •

ATLAS COPCO FEATURED NEW TIER 4 FINAL QAS 45 PORTABLE GENERATOR DURING THE RENTAL SHOW

Atlas Copco Portable Energy packs a great amount of power into its heavy-duty QAS 45 portable generator. The unit features an Isuzu 4LE2X engine and a diesel oxidation catalyst (DOC) to achieve Tier 4 Final emission levels. The QAS 45 is rated for 45 kVA of prime power for applications such as construction, oil and gas, rental and large events.

Atlas Copco featured the QAS 45 portable generator Feb. 22-25 at booth 8935 during The Rental Show in New Orleans.

The QAS 45 generator is designed for predictable power and optimal operation with its reliable alternator, large

fuel tank and simple control panel. The unit is equipped with a dependable Leroy Somer AREP alternator for superior motor starting capabilities. It also features a 72.5-gallon fuel tank for run times as long as 30-hours under typical loads. DeepSea 4510 controls are comfortable, reliable and easy to use. The backlit display shows all critical machine information, which can be viewed through a rugged, clear viewing panel in the door. The generator controller features remote start capability and all functions are set with warning and shutdown safety limits that can be easily customized by the user.

The generator has high versatility with its standard voltage selector switch that allows operators to adjust the

machine's output to 480/277, 208/120 and 240/139 volt 3-phase settings, as well as 120/240 volt single phase for varying applications and equipment. This versatility gives users greater flexibility on jobsites and can increase utilization at rental centers. Operators can lock the front panel voltage adjust potentiometer to prevent unintentional adjustments to the voltage, which can cause





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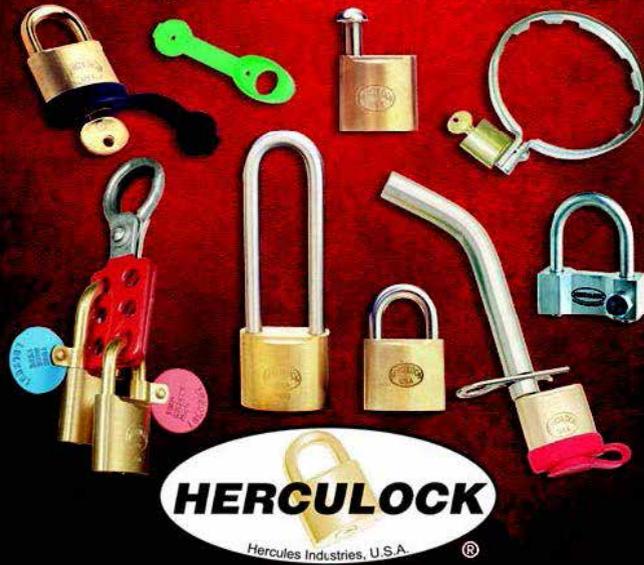
The Isolated Power Adapter's electronics are enclosed by an epoxy-sealed case to protect the internal circuits from damage caused by shock and/or vibration. Its durable construction withstands extensive wear and tear in any harsh mobile environment. Snap-in connections make replacing missing or damaged cables from anywhere in the field easy and hassle-free.

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overheating or equipment damage. In addition, the QAS 45 features two 120vac GFCI duplex receptacles that are always powered, so contractors can operate small hand tools while running larger loads.

The QAS 45 ensures low decibel levels for use on noise-sensitive jobsites and residential areas with its sound-attenuated enclosure and a vertical radiator and exhaust discharge. The spillage free base-frame is sized for 110 percent containment of all the machines fluids and fuel, giving users confidence in the most environmentally sensitive areas.

The QAS 45 has one of the highest resale values in the industry due to its overall durability as well as the quality and dependability of its individual components. The QAS 45 is mounted on a durable frame and surrounded by a robust enclosure formed from galvanized steel and powder coated for a long-lasting, scratch- and corrosion-resistant surface.

Maintenance was a key factor when the QAS 45 was designed. Large access doors and single side maintenance ensures that service downtime is kept to a minimum. The DOC after-treatment device requires no regeneration or maintenance. The engine meets Tier 4 Final emission standards without the need for diesel exhaust fluid or a diesel particulate filter system, thereby eliminating any maintenance for those systems. Further, engine fluids are plumbed to the edge of the skid to eliminate the hassle of maneuvering pans into the interior space. And, the extended life filters have 500-hour service intervals resulting in reduced maintenance costs.

The QAS 45 comes equipped on a class-leading single axle trailer with robust tie-downs for safe transport on a flatbed. The unit also can be skid mounted for easy movement with a forklift. All units come with an integral standard single-point lifting eye in the enclosure for maneuvering with a crane, and is rated for lifting the complete genset with trailer and fuel.

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TQK provides a maximum power density. It features a versatile design in 5 sizes (060, 070, 090, 130 and 160), ratios from 6 up to 200 thanks to its design based on one and two reduction sizes, all this with a nominal torque from 30-800 Nm.

Furthermore, its distinctive housing design and optimized mono-block planetary carrier provide a markedly high torsional stiffness that can meet any application requirement from a faster dynamic to a higher number of stops and reverse cycles. The optimized planetary full-needle roller bearings allow for a higher torque output due to the maximizing of the contact points and increased stiffness, reduced wear and backlash. The TQK Series is equipped with higher-rating bearings that can handle higher radial and axial loads, and the reinforced bearing options extend higher performance. Its design is also suited for S1 & S5 operation with a very reliable catalog rating and selection procedure. The TQK series also comes equipped with a standard and reduced backlash lower than 4 arcmin and a smooth/keyed shaft. The combination of the reduced backlash and the high stiffness allows the TQK series to offer the highest level of precision.

These notable design features make the TQK series the best planetary gearbox solution available with the highest input speed rank to match the fastest servomotors on the market as well as the highest flexibility for input flanges to that can correspond with both Bonfiglioli and the most common servomotors. The TQK series can satisfy the most demanding needs by providing the most versatile and forward-thinking solution.

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Building Mufflers Not an Exhausting Process Thanks to Cynergy Vacuum Lifters

A Cynergy Ergonomics vacuum lifter recently installed in a major automotive manufacturer lifts and repositions exhaust assemblies in and out of work cells, holding the assemblies firmly even as their weight increases throughout the manufacturing process. The purpose-designed lifter allows an operator to lift a part from one cell to the next in 4-5 seconds, while also allowing a change in the parts orientation if necessary. The vacuum cup tooling allows for use in applications with elevated temperatures while the “part present” technology prevents the releasing of the part until it is properly seated in the next cell. Without installing the Cynergy Ergonomics vacuum lifter this process would be completed manually, but now operators can move the exhaust assemblies with virtually zero effort. Because of this users have eliminated their recordable injuries and the inherent problems that surround an elevated risk process.

Cynergy Ergonomics engineers studied the task at hand, along with the plant environment and utilities available prior to recommending a solution. The resulting vacuum lifter uses Vi-Cas VC-90 oval vacuum cups to hold the assembly during the lifting and positioning process, and is powered by compressed air which was readily available nearby.

Cynergy Ergonomics specializes in ergonomic workstations and material handling equipment such as lifts, articulating arm manipulators, sheet, panel and roll lifters, vacuum tube lifting, roll manipulators and material handling equipment. They specialize in lifting device design, lift assist system designs, material handling vertical lifts, manual ergonomic pick and place systems and workstation improvements for manufacturing, assembly, production and distribution centers that currently use human power for material handling as well as providing automated material handling solutions. For additional information visit www.cynergyergonomics.com or call Mike Shannahan at (314) 304-0221.



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The Introduction of FLOOOM

For most manufacturers, determining how much individual inventory cost components contribute to the total cost of finished goods can be a difficult and uncertain process. Global Shop Solutions, a global provider of enterprise resource planning (ERP) software for discreet manufacturers, takes the mystery out of this process with the introduction of FLOOOM – a new software release that takes a giant step forward in ERP job costing capabilities.

“Too often, individual costing components such as labor and materials get lumped together when determining finished goods costs,” says Dusty Alexander, CEO of Global Shop Solutions. “When cost of goods sold starts to creep up for a product line, it can be very difficult to pinpoint which cost components are causing the increase. FLOOOM measures Freight, Labor, Overhead, Outside, Other and Material so our customers can determine their individual costing components with remarkable precision.”

With FLOOOM, manufacturers can get reliable answers to critical job costing questions such as:

- How much labor and material went into this part?
- How does the cost breakdown compare with past production?
- Which process needs to be improved to lower costs?
- How will a change in production costs (such as material) affect the financial statement?

In addition to identifying the percentage of each cost component for work in progress, FLOOOM also provides powerful historical tracking capabilities, offering an instant time-lapse view from past to present of every part that has passed through the shop floor. Manufacturers can simultaneously view old quantities and cost, current transaction and cost, and new quantity and cost, as well as a complete history of finished goods costs, allowing them to make better management decisions.

“FLOOOM is all about empowering our customers by providing greater visibility of their cost factors,” adds Nick Knight, Director of Consulting & Implementation at Global Shop Solutions. “The more ways they can look at the data, the greater their ability to fine-tune their production processes to improve the bottom line.”

About Global Shop Solutions

Global Shop Solutions, the only provider of One-System ERP Solutions™ designed to streamline operations, has helped thousands of discrete manufacturers increase sales, improve quality and on-time delivery, and lower costs. Global Shop Solutions is headquartered in The Woodlands, Texas, with offices in major cities throughout the United States, Mexico, Singapore, Indonesia, Australia and New Zealand, serving customers in a variety of industries throughout the world. Global Shop Solutions’ unique combination of manufacturing knowledge, software expertise and commitment to customer service has produced more successful implementations than any of its competitors in the industry. For manufacturing companies that want to provide better and faster service to their customers, gain more control over their business and accelerate growth and profitability, Global Shop Solutions is the ERP software of choice.

For more information please visit www.globalshopsolutions.com.



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DeVilbiss Announces Return To Racing and Upcoming Events



Finishing Brands, manufacturer of DeVilbiss industrial finishing equipment, is pleased to announce a return to racing with the sponsorship of the DeVilbiss CRP Audi R8 LMS Ultra. This sponsorship brings a brand new look to the car's exterior, complete with DeVilbiss logo and spray gun on the DeVilbiss orange finish.

"We are very excited to be representing DeVilbiss this season," says CRP Racing owner, Nick Short. "They are a highly successful company and their products for Industrial Spray Finishing and Automotive Refinishing are a perfect match for a race team. We look forward to representing DeVilbiss up on the podium."

DeVilbiss Racing is competing in Indy, World Challenge and Vintage race events.

Upcoming 2015 Races:

May 7-9 — Indianapolis Grand Prix, Indianapolis IN USA (Indy / World Challenge)

May 15-17 — SpeedFest, Canadian Tire Motorsports Park, Toronto ON Canada (World Challenge)

May 29-31 — Detroit Grand Prix, Detroit MI USA (Indy / World Challenge)

June 26-28 — Road America, Elkhart Lake WI USA (World Challenge)

July 16-19 — The Hawk International Challenge, Road America, Elkhart Lake WI USA (Vintage)

July 31-August 2 — Indy 200, Mid-Ohio, Lexington OH USA (Indy / World Challenge)

August 21-23 — Grand Prix of Utah, Miller Motorsports Park, Tooele UT USA (World Challenge)

August 28-30 — Grand Prix, Sonoma Raceway, Sonoma CA USA (Indy / World Challenge)

September 11-13 — Season

Finale, Laguna Seca, Salinas CA USA (World Challenge)

About DeVilbiss Finishing Equipment manufactured by Finishing Brands

DeVilbiss is recognized as the global leader in high quality atomization for industrial finishing and has been providing innovative solutions to spray finishing problems since 1888. DeVilbiss designs and manufactures a broad range of finishing equipment and productivity solutions for the industrial market including spray equipment, disposable paint cups, air filtration, contamination control products, and more.

For information about DeVilbiss, visit www.devilbiss.com.

Finishing Brands is a global manufacturer and supplier of finishing equipment and systems focused on the spraying, pumping, mixing and curing of a variety of coatings. The company serves diverse end markets including OE automotive, automotive refinishing, aerospace, agriculture, construction, marine, medical, rail, specialty, wood and other industrial applications. The business operates from 26 locations in seven countries. Finishing Brands manufactures and sells products under the well-known brand names of DeVilbiss®, Ransburg®, BGK® and Binks®. Finishing Brands is a division of Carlisle Companies Incorporated in the Fluid Technologies business unit. Finishing Brands provides technology, support and solutions with worldwide resources and experience for industrial customers' finishing needs.

Visit www.finishingbrands.com and select your global region for more information.

CRP Racing is a leading edge race car engineering company with a winning pedigree that offers full service race car prep, full track set-up, restoration and custom fabrication, and shock, dyno and design services. Owner Nicholas Short has made a career out of motorsports with experience in IndyCar, NASCAR, Trans-Am, Group C Endurance Racing, Baja desert racing, Vintage SVRA and HSR and the World Challenge series.

New: Eplan Design Space Exchange



When integrating control technology into customized control cabinet solutions, it can be challenging to reduce the space needed for machines and installations and condense structure size. The new Eplan Design Space Exchange simplifies the creation of virtual models for electrical and control systems engineers while simultaneously breaking down the barriers between electrical and mechanical design engineering.

The new Eplan Design Space Exchange (DSE) has been unveiled. DSE supports data exchange between mechanical construction and control system technology in control cabinet and switchgear construction. The expansion module for Eplan Pro Panel Professional, developed by Eplan and MCAD specialists at Cideon, is available for the first time with Eplan Platform 2.4 and compatible with Autodesk Inventor 2014 and 2015.

"Without the cabinet case, there is no mounting layout, and without the mounting layout, there is no final case design. This dilemma can now be resolved with the Design Space Exchange expansion module," explains Thomas Weichsel, product manager at Eplan. DSE is based on a fully parametric 3D geometric data model of the mechanical design that takes into account the particular requirements for the installation location of the mounting panel or cabinet. DSE accesses the 3D CAD data of the control cabinet case design and makes it available to the Eplan Platform, as the basis for the mounting layout using Eplan Pro Panel. The 3D mounting layout is created within this design space, referencing the automation concept from the electrical design. All electrical equipment intended for installation will be mounted virtually, taking into account spatial conditions and manufacturer specifications regarding minimum clearance.

Wiring on Virtual Prototypes

Installation holes, threads, slots

and cutouts are automatically integrated for subsequent assembly. The virtual prototype of the cabinet is the basis for virtual switchgear wiring and for determining optimal wiring paths and appropriate wire lengths, among other things. Once the virtual mounting layout has been completed, Eplan DSE provides data on the necessary installation holes, threads, slots and cutouts for integration into the 3D mechanical engineering model, at the push of a button. DSE then interprets data and objects on the Autodesk Inventor page and creates a consistent product data model for mechanical design including all components, holes and cutouts. The model is fully parametric and is in the form of native Autodesk Inventor geometry data, so that the mechanical design can integrate the manufacturing procedure including processing, BOMs and manufacturing drawings. While the mechanical design lays the foundation for the manufacture of the cases, the electrical designer can compile complete, as-built, project documentation of the final product. For example, the automated assembly of terminal strips and wire bundles, with all the necessary schematics, mounting diagrams, manufacturing drawings, BOMs, device lists, connection lists and data are created. As Weichsel notes in his summary of the advantages: "Interdisciplinary data synchronization reduces potential sources of error and product development costs, saving time while improving quality."

EPLAN Software & Service develops engineering solutions, which accelerate the product development process. Interdisciplinary expert systems assure the highest degree of productivity and data integration. The solution provider develops customer-specific and tailor-made PDM and PLM concepts and provides comprehensive services such as customizing, consulting and training. Innovative development competence, a consistently practical approach, and international presence are the resulting success factors. EPLAN is part of Rittal International and thus of the Friedhelm Loh Group with 11,500 employees worldwide and generated revenues of about 3 billion USD in 2011. EPLAN is therefore synonymous with continuity and investment security. Eight offices in North America and company presence



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HammerHead Trenchless Equipment has introduced the HammerHead ROUGHNECK™ R600, the largest of its pneumatic percussion drilling systems for use in horizontal directional drilling applications. Designed for drilling solid rock with bit diameters of 7.25 to 8 inches, the R600 gives HDD contractors the ability to complete larger diameter bores in fewer passes as well as access to a wider range of single-pass boring applications.

Josh Hood, HammerHead HDD product manager, said the R600 opens up new possibilities for the horizontal driller: "A typical large-diameter bore might take several passes to open to the final diameter. A larger pilot can help save time and money by eliminating some intermediary passes."

The larger bits driven by an R600 also increase the range of single-pass applications the driller has access to, Hood said, such as in communications and/or other service installations.

The R600 completes the range of existing HammerHead ROUGHNECK rock drills available to HDD customers. It joins the R400 designed for 5.25-inch straight and offset bits and the ROUGHNECK R500 for straight and offset bits to 6.25 inches in diameter.

All three ROUGHNECK hammers turn any horizontal directional drill in the construction industry into a high-production rock drilling machine. Capable of penetration rates of 150 feet or more an hour, the rock hammers feature heavy-duty, high-flow housing; patent-pending pullback kit; control station/oiler; and drill conversion kit.

Their heavy-duty housing permits directional drilling in varying rock conditions without changing out the housing. The larger bore diameter of the ROUGHNECK housings allows the hammer to send more air to the internal

for maximum efficiency, resulting in faster and harder blows. Standard API thread makes housing connections easy. And a patented, pinned-on lid design and isolation package secures and protects electronic investment.

The patented offset rock bit design increases steering precision, allowing the operator to navigate a wide variety of ground conditions. Integrated face-cleaning exhaust ports of the hammer ensure reliable performance, and the patented check valve located within the bit eliminates ingestion of debris.

The control station utilizes the drill's existing mud pump to efficiently deliver air, oil and fluids down hole, reducing footprint size and weight. Integrated electronics facilitate the drilling operation and provide the operator with control and increased productivity without leaving the drill operator's station.

All ROUGHNECK control stations can be installed with a tee and a ball valve on the high pressure side of the mud pump, which directs airflow to the drilling fluid supply line.

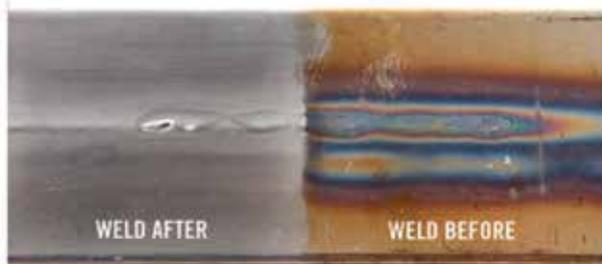
As with all HammerHead products, ease-of-maintenance is built in. The ROUGHNECK system is equipped with patented spanner wrench holes in the front and rear of the hammer, reducing the number of breakout tongs required to change out the bit or service the tool.

The ROUGHNECK R600 rock hammer system is available worldwide from HammerHead Trenchless Equipment or from authorized dealers. Authorized dealers can be found on the web at www.hammerheadtrenchless.com or by calling 800.331.6653. (International: + [1] 262.567.8833).

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With the IXXAT Safe portfolio of ready-made safety I/O modules and safety protocol software, HMS Industrial Networks offers TÜV-certified solutions for implementing secure communication into industrial devices.

With the IXXAT Safe offering, HMS offers an extensive portfolio of solutions for safe communication according to IEC 61508. The solution includes TÜV-certified safety protocol software for CIP Safety and Functional Safety over EtherCAT (FSoE), as well as certified and ready-to-use PROFIsafe I/O modules for integration into customer devices. Implementing safety functionality can be complicated, which is why the HMS safety development team offers support to customers during their safety implementation. HMS also offers development of customer-specific OEM solutions.

IXXAT Safe T100

A highlight within the IXXAT Safe offering is the ready-made IXXAT Safe T100 module – a complete solution for easy and fast integration of safe I/Os using a safe communications protocol. The Safe T100 module is integrated directly into the customer product or system – for example welding systems, drives, counter terminals etc. Thanks to the comprehensive architecture of the safety hardware and software, pre-certified by TÜV Rheinland, the use of the IXXAT Safe T100 considerably simplifies the development of devices and systems with safe communication. It also reduces development time, cost and risk.

The IXXAT Safe T100 is designed to work together with HMS's Anybus CompactCom modules for fieldbus and industrial Ethernet communication. In this solution, CompactCom acts as the pathway through the unsafe network and safe communication is implemented using the "black channel" principle.

In addition to the first version now released – the IXXAT Safe T100/PS for PROFIsafe on PROFINET – additional variants will soon be available, such as for CIP Safety on EtherNet/IP or FSoE. Special requirements in terms of form factor, connectors, or the number of I/Os, can also be met through specific OEM implementations offered by HMS.

Safety protocol stacks

In addition to the ready-made Safe T100 module, HMS also offers protocol stacks for FSoE and CIP Safety on EtherNet/IP or SERCOS. Just as for Safe T100, the protocol stacks are also certified by TÜV, enabling easy implementation of safe communication on suitable hardware. By using a pre-certified safety protocol stack, customers benefit from significantly faster development time as well as lower costs and risks. Integration of the stacks can be carried out by the device manufacturers themselves, but HMS is ready to assist with implementation, porting, and certification services.

<http://tekinfo.link/r520b9e886>

Larson Electronics has added to its extensive range of industrial grade lighting equipment with the release of an 800 watt quadpod mounted work light. Built to provide a high power lighting solution that requires minimal setup time, the WAL-QP-2X400LTL-LED-100 provides operators with an ideal lighting solution that features a quadpod with solid wheels for portability and two 400 watt LED light heads.

The WAL-QP-2X400LTL-LED-100 from Larson Electronics is a quadpod mounted work area light that provides approximately 50,000 square feet of work area coverage with 104,000 lumens of light. The light fixtures are IP67 rated waterproof and offers increased durability, longer lamp life, and low power consumption. This portable light tower has a removable light head assembly mounted on top of a four legged aluminum quadpod equipped with wheels for easy positioning from one work space to another. This adjustable and collapsible quadpod can be extended to twelve feet and collapsed to seven feet. The light assembly on this unit can be removed by releasing the hand knob and sliding the light and mounting bracket off of the center support while the legs can be collapsed, aiding in deployment, storage and transportation. This quadpod mounted work light is a heavy duty unit designed for use in inclement conditions and for overall longevity in difficult construction environments with heavy duty aluminum construc-

tion and stainless steel hardware for maximum durability. Included with this LED quadpod mounted light is one hundred feet of SOOW cord, which combined with the adjustability offered by the LED light head, provides ample length for tower placement and optimal coverage of the workspace. Larson Electronics' work lights are designed for industrial, emergency response and military applications, where operators are working in harsh, destructive environments that require durable, dependable lighting.

"This new quadpod mounted work light is one of our most powerful, compact work lights," Rob Bresnahan with Larsonelectronics.com said. "This light assembly produces a wide flood pattern that makes it ideal for illuminating large work spaces and job sites."

Larson Electronics carries an extensive line of explosion proof lights, hazardous location lights, intrinsically safe lights, oil rig lights and explosion proof tank lights. You can view Larson Electronics' entire line of explosion proof lighting at

Larsonelectronics.com. Larson Electronics can be reached directly by calling 1-800-369-6671 or 1-214-616-6180 for international inquiries.

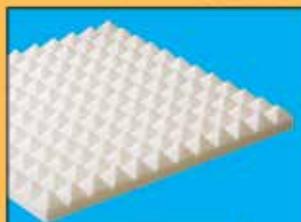




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