

Power Transmission Engineering

Engineering Showcase 2017

One of our goals at *Power Transmission Engineering* is to help you understand, identify and select the best technology for your mechanical power transmission or motion control applications. With every project, you have to decide which components to use, and which suppliers, based on functionality, quality and price. We aim to help you make those decisions *informed* by providing the latest information on current technology, especially when it comes to mechanical components.

With that in mind, we are pleased to present our fourth annual Engineering Showcase, a celebration of some of the leading products and companies in mechanical power transmission. In the pages that follow, you'll find examples of engineering excellence and technological know-how in the field of gears, drives, couplings, machine parts and other mechanical components.

This guide is meant as a complement to our annual Buyers Guide and our permanent online directory of suppliers at powertransmission.com. In this special section, we have the opportunity to go into more depth in describing the products and capabilities that make each of these suppliers unique.

So please browse through the section and read about the latest these suppliers have to offer. If you have an upcoming project that matches their manufacturing capabilities, we're confident that giving one of them the opportunity to bid will be well worth your efforts.



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Andantex USA Inc. has been providing quality, unique gearboxes for use on industrial machinery for over 35 years, delivering engineered solutions using high-precision motion control components.

New products provide complete solutions to Rack and Pinion Axis drives:

The complete solution is built from standard building blocks:

- Racks & Pinions
- Precision Speed Reducer
- Automatic Lubrication System
- Engineering Selection and Guidance to Optimize the Solution
- Installation Instructions and Assistance



The axis building blocks are:

Modular rack & pinion system providing standard rack sections and modules for building any length or precision linear axis.

Four families of planetary reducers optimized for stiffness & precision.

KRP+ Rack & Pinion dedicated planetary reducers are the SingleDRIVE flange mounted components in this family that provide minimum or ZERO-BACKLASH.

DRP+ DualDRIVE & TwinDRIVE includes integral output pinions and monoblock housing for universal mounting and dedicated solutions to ZERO-BACKLASH rack & pinion and rotary table drives.

KRPX are Side Mounted high performance planetary Servo-Reducer dedicated to rack & pinion or rotary applications. The accessible side mounting offers a cost effective, easy to implement installation.

SRP High-Tech Planetary reducers with ISO 9409-1 output flange are used for heavily loaded precise positioning applications.

HPG Servo-Worm Reducers for Positioning Applications

Servo-worm reducers offer cost-effective solution for material handling or pick and place requirements.

Mini In-Line Servo Reducers

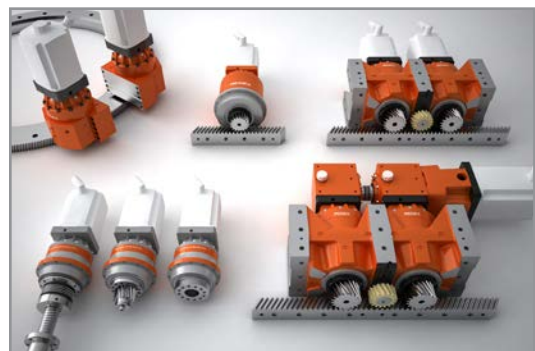
This range of planetary reducers is designed for use with servo-motors in all kinds of industrial applications.

Automatic Relubrication System

The Flexxpump, a high-performance system to lubricate racks & pinions, open gearing, linear guideways, ballscrews and chain drives.

These building blocks are combined together to provide axis drives with the correct balance of precision, power and price for the following applications:

- Axes requiring precise positioning and repeatability
- ZERO-BACKLASH positioning and contouring drives
- Horizontal or vertical axes drives



These applications are found in the following industries:

- Machine Tool: Gantry Milling Machines, Horizontal Boring Machines, Large Horizontal & Vertical Lathes
- Carbon Fiber Placement Machines
- Material Handling Pick & Place Robots
- Ultrasonic Inspection Machines
- Cutting Machines: Laser, Waterjet, Plasma, Stone

ANDANTEX USA Inc.

2017 Engineering Showcase

Stock Drive Products/Sterling Instrument (SDP/SI)

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Stock Drive Products/Sterling Instrument a Designatronics company

Established in 1950, Stock Drive Products/Sterling Instrument (SDP/SI) is the company engineers and OEMs depend on for high-quality components, subassemblies, and engineering expertise. As a company founded and managed by engineers we understand and respond to the developing needs of our customers better than anyone. Over 100,000 components are available off-the-shelf for fast turnaround. When a standard part won't meet your requirements

we can provide alternative solutions through custom design and manufacturing. Our engineering and manufacturing teams

will partner with you throughout the entire process. Located in New York, SDP/SI is remaining on Long Island, moving to a brand new state-of-the-art production and manufacturing facility in early 2017. By providing design, development, manufacturing, assembly, and testing in one location we can ensure the end product will meet your expectations. For prototype and small to large production runs you can rely on SDP/SI.



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High Volume Precision Gear Production

We manufacture precision gears, custom gearboxes, differentials, and planetary gearheads.

State-of-the-art gear production facility has increased capacity and offers new capabilities.

- High-precision gear production 24/7
- Faster turnaround – including gear cutting on CNC lathes for one piece flow (depending on quality (UP TO AGMA 11) and process requirements).

Stock Drive Products/Sterling Instrument, ISO 9001 + AS9100 Certified

SDP/SI designs, manufactures and produces custom and standard gears and other power transmission components. Our precision gears, gear assemblies, high-quality machined parts and molded components are used in a wide variety of product applications worldwide including aerospace, defense, military and commercial aircraft, robotics, and medical.

- Timing Belts and Pulleys
- Precision Gears
- Precision Gearboxes
- Precision Machined Components
- Molded Components
- Mechanical Assemblies
- Customized Components and Assemblies
- Contract Manufacturing

For a design consultation or technical assistance call our engineering department: (516) 328-3300.

Request a Free Inch and Metric Catalog Set, more than 2,784 pages of parts, specifications and technical information.



Napoleon Engineering Services (NES)

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Napoleon Engineering Services

(NES) specializes in custom bearing manufacturing. We are also the largest independent bearing inspection and bearing testing facility in North America. Our goal is to empower you with specialized bearing solutions related to custom bearing manufacturing and inspection and testing.

Why should NES be your bearing solution?

- Corrosion Resistant
- Temperature Extremes
- Load Extremes
- High Fatigue Life
- High Life Materials
- Cost Effective Solutions
- Bearing Size Range 20-350 mm
- Short Lead Times
- Small Production Runs
- High Precision Capabilities
- Advanced Design Technologies
- Over 100 years combined application experience and engineering knowledge
- Made in America



Custom Bearing Manufacturing

NES's design engineering and manufacturing capabilities provide customers with custom designed bearings without long lead times. Our knowledge and expertise allow us to analyze your application conditions and develop an advanced product that will meet or exceed your needs.

Types of Custom Bearings:

- Deep groove ball bearings
- Angular contact ball bearings
- Double-row self-aligning ball bearings
- Needle roller bearings
- Cylindrical roller bearings

Bearing Inspection & Testing

NES is the creator of inspection & testing programs supporting global bearing sourcing & bearing qualification. NES has been leading OEMs through the global bearing qualification process for 20 years providing technical information through bearing inspection, modeling and testing programs to evaluate bearing design, manufacturing capability, overall quality of workmanship, and the relationship these attributes have on bearing life. No other source has the experience, capacity or capability to service your bearing qualification needs like **NES – the World Leader.**

Industries & Applications

- Aerospace
- Defense
- Oil & Gas
- Power Generation
- Marine
- Industrial
- Transportation
- Gear Drives
- Medical
- Food Processing
- Agriculture
- Pumps/Turbines
- Generators
- Off-Highway
- Certifications
- ISO 9001:2008 Certified
- AS9100C Certified



2017 Engineering Showcase

R+W Coupling Technology

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R+W has always stayed in the forefront of breakthrough coupling technology and does its best to exceed customer's requirements and expectations. An ever-expanding product line helps them design the most optimal solution for nearly every application in any industry.

The most recent expansion of the ST product line shows the commitment that this company has to take on new markets and provide overload protection to even more customers than ever before. A new torque limiter department with its own facility has been created to reduce lead times further and focus on customization. This line of new industrial safety clutches has undergone vigorous testing not only at the company's R&D center, but also at partnered Universities in Germany including RWTH Aachen and University of Bayreuth. The added models feature new sizes as well as connection methods to provide more options than ever before.

Over the past 25 years, R+W has established itself as a precision couplings expert, and with these new safety coupling additions it plans to expand its expertise into the industrial sector as well. As always, customer's demands are top priority as engineers are ready to assist customers with customized solutions for complex coupling applications. Find out what the coupling technology leaders can do for you and get the best connection, worldwide.

RW-AMERICA.COM



R+W
A POPPE + POTTHOFF COMPANY



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Schaeffler Engineering: Greater Than the Sum of Our Parts

When it comes to bearings, Schaeffler, together with our INA and FAG brands, has always been at the forefront of technological innovation. Industry firsts - such as the development of the needle roller & cage assembly, or the groundbreaking ball grinding machine that is regarded as the foundation of the entire rolling bearing industry - have earned Schaeffler a unique distinction among the world's great bearing companies. With nearly 85,000 employees working in approximately 170 locations in 50 countries, Schaeffler is one of the world's largest technology companies in family ownership.

In addition to rolling bearings for practically any application, linear bearings and guidance systems are also a vital part of Schaeffler's product portfolio. Unrivaled in scope and versatility, Schaeffler's linear product lineup ranges from shafts with linear ball bearings and monorail guidance systems

to sophisticated actuators with drives and control systems, plus special coatings and every conceivable accessory.

But that's only the start. Schaeffler's linear portfolio is based on a modular concept that goes far beyond mere components. We can design a complete system solution tailored to the customer's specific application - from large gantry robots to intricate circuit board inspection systems. In fact, many of our linear guidance systems started out as solutions to customers' needs! Case in point: Schaeffler's ingenious H-Bot XY positioning system.



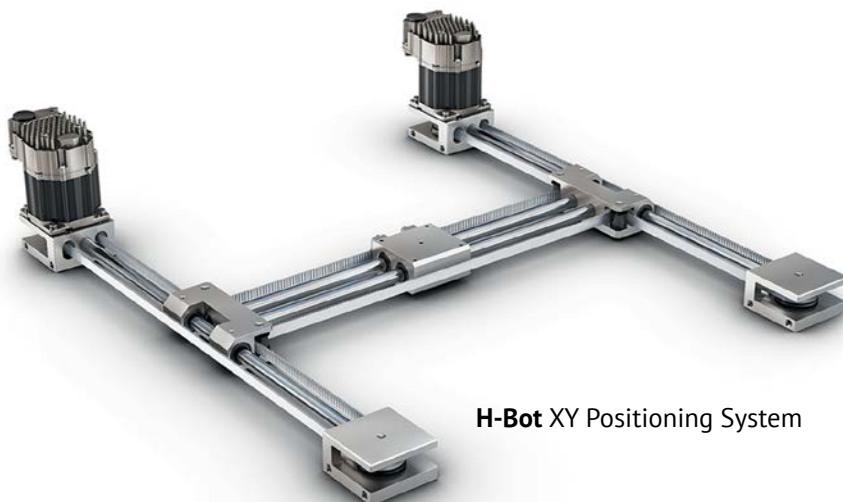
PWG Differential Roller Screw

Sometimes, of course, a Schaeffler solution comes about because a customer's needs were not being met by the conventional standard. Such is the case with Schaeffler's innovative PWG differential roller screw. Within the pantheon of mechanical/linear drive systems, the screw category has been limited to lead screws, ball screws and roller screws.

Until now, that is.

In response to a customer's request for a solution that better addressed its ambitious price-performance target, Schaeffler recently developed the PWG differential roller screw: a new option that offers the high forces of a traditional roller screw, but at a price point closer to a ball screw.

So while innovative products make up the heart of Schaeffler's offerings to our customers, service represents the soul of what we do. Because when it comes to linear guidance systems, Schaeffler has all the pieces; you only have to supply the puzzle. Together, we'll create the perfect linear solution... yours.



H-Bot XY Positioning System

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Southern Gear & Machine

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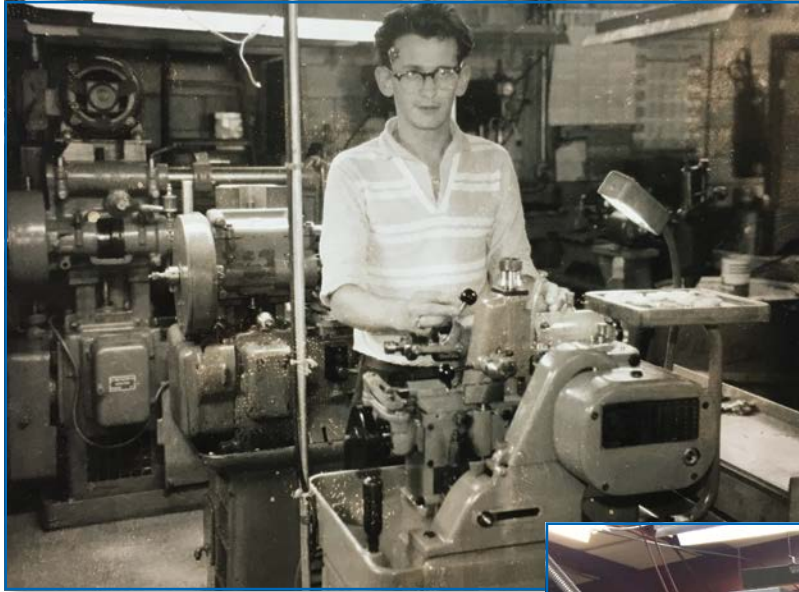
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60 Years on the Cutting Edge



Southern Gear & Machine

is celebrating 60 years of leading the way in custom precision gear manufacturing. Our ongoing investment in technology and personnel keeps us on the cutting edge of gear manufacturing, providing the highest quality gears to the world's most demanding industries.



- Our machinists and engineers have an average of 26 years experience in gear manufacturing.
- Our employees have been with our company an average of 15 years.
- We have more than 50 gear cutting machines alone.
- We have invested close to one million dollars in new equipment each year for the past six years.

Cutting Edge Technology in Experienced Hands

QA1

QA1 is the #1 name in rod ends and spherical bearings. QA1's inch and metric rod ends and spherical bearings feature precise tolerances for quality and durability and are offered in a variety of styles and in alloy, carbon or stainless steel options. No matter what you're linking, you are sure to find exactly what you need and get it quickly from QA1.

Founded in 1993, QA1 built its foundation on quality and affordability being the number one priority. QA1's quality system is ISO 9001:2008 certified. By following



strict processes and adhering to exacting quality control procedures, QA1 ensures consistent products at competitive prices. With a wealth of engineering and manufacturing expertise

on staff, our products are designed, built and tested to ensure ultimate reliability and unbeatable performance. If you need custom linkage products, QA1's complete in-house design and engineering team and state-of-the-art manufacturing facility are dedicated to making it happen. QA1 is also a global provider of shock absorbers, suspension components, ball joints, clevises, rod eyes, jam nuts, spacers, custom linkage assemblies, carbon fiber driveshafts and more!

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Gear Technology

Gear Technology is where the world turns for information about gears and gear manufacturing. We reach a broad-based audience of gear industry professionals involved with every phase in the life of gears and geared products, from conception to design, from design to manufacturing, from manufacturing to inspection, from inspection to purchase and from purchase to end use.

Our magazine, website and e-mail newsletters are read in more than 60 countries around the world, at huge multinational corporation and small job shops, in high-tech engineering offices and on the factory floor.

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