

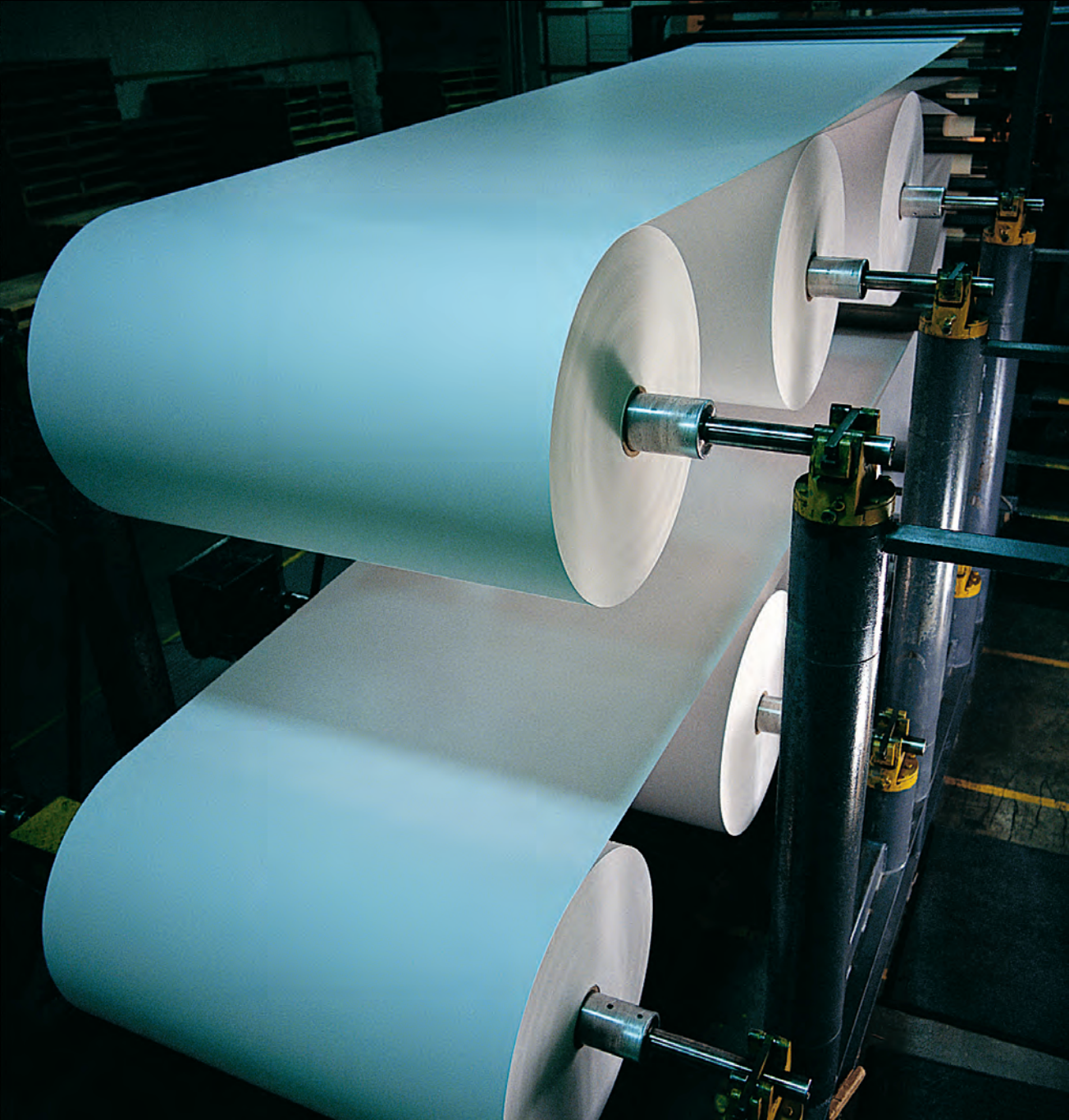


A Maxcess  
International  
Company

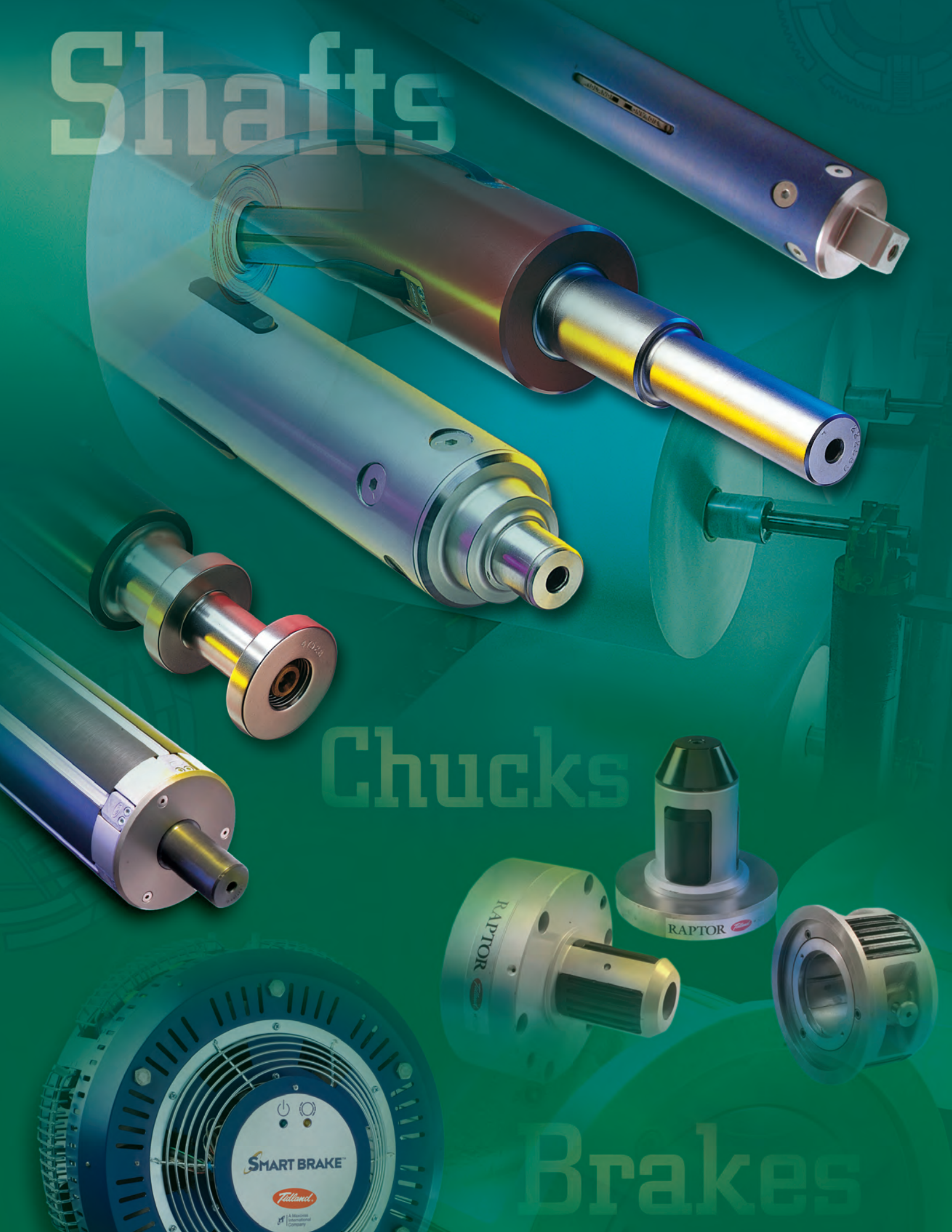
# Winding Solutions

*Shafts, Chucks, and Brakes  
for Web Handling*

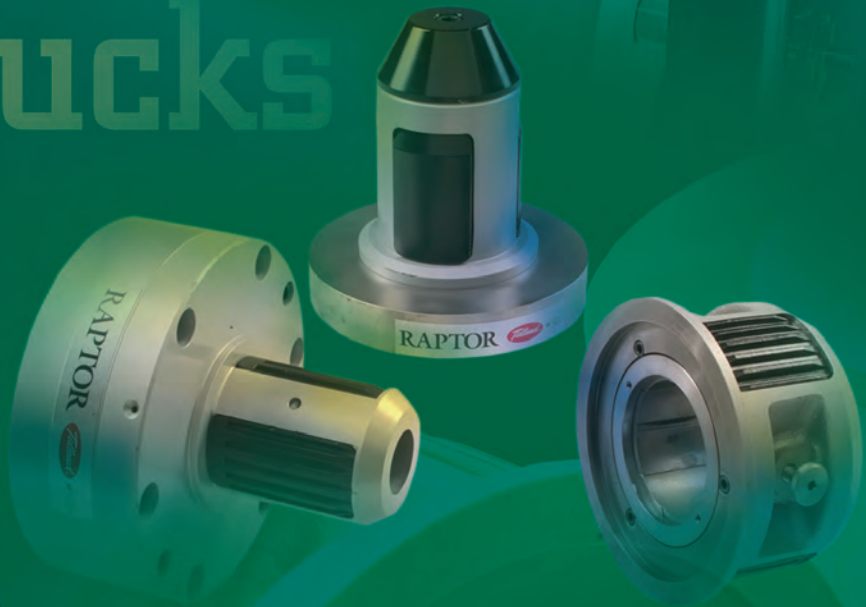
T I D L A N D W I N D I N G P R O D U C T S



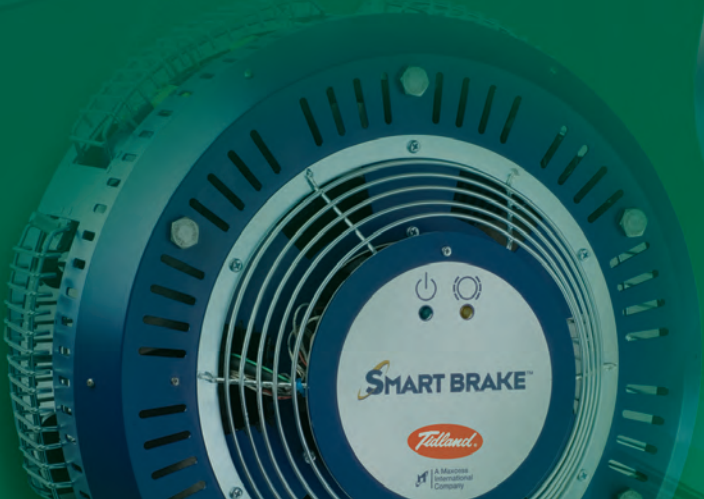
# Shafts



# Chucks



# Brakes





A Maxcess  
International  
Company

*Winding solutions for all your web handling needs.*

T A B L E O F C O N T E N T S

**Introduction . . . . . 2**

**Ergonomic Shaft Solutions . . . . . 3**

**Core Shafts . . . . . 4-6**

    Unwind . . . . . 4

    Rewind . . . . . 5

    Differential . . . . . 6

**Specialized Shaft Solutions . . . . . 7-8**

    Mill-Duty Air Shafts/Reel Spools . . . . . 7

    Light Metals . . . . . 7

    Narrow Web . . . . . 8

    XP Great Expansion Shafts . . . . . 8

**Brakes, Tension Control and Safety Chucks . . . . . 9**

**Core Chucks . . . . . 10-11**

**Repair Services, Accessories and Roll Savers . . . . . 12**

**Product Selection Chart . . . . . 13**

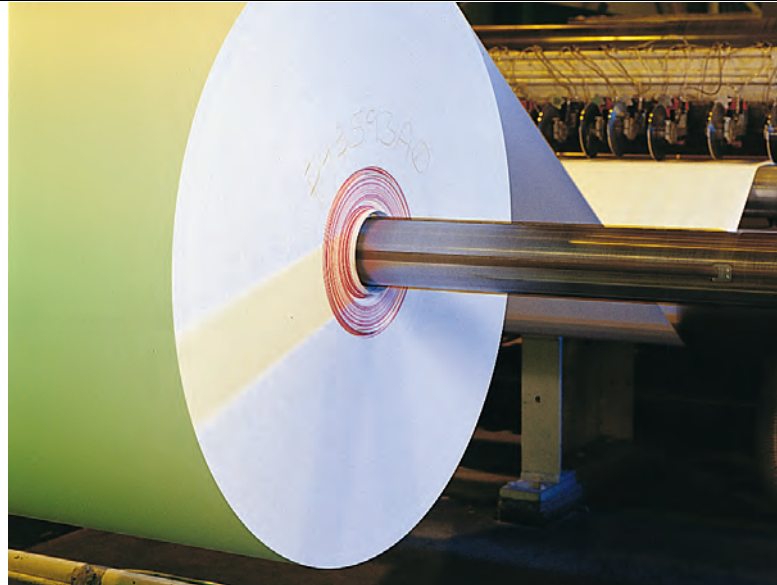
### Productivity Through Innovation

Rolls have gotten bigger and bigger. Speeds have gotten faster and faster. The reason? Because - faced with the day-to-day challenge of increasing productivity - they have to. And if you can't keep up, you lose out.

Since the invention of the very first air shaft, Tidland has been committed to building products that are durable, designed for easy use, and engineered for reliable, long-lasting operation. As a result, Tidland has provided the web industry with truly innovative winding and slitting products that not only improve the way you work, they take productivity to a whole new level.

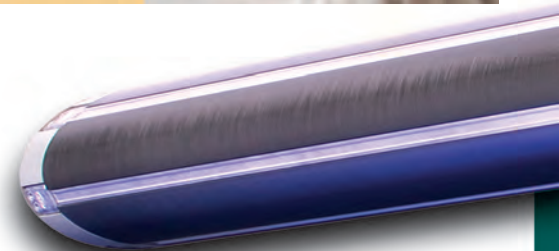
So whether you're working with films or foils, papers or non-wovens, we offer the broadest range of winding solutions to meet your specific needs. And we don't stop there:

- **Application Expertise**
- **Delivery**
- **Superior Service**
- **Product Safety Data**
- **Global Presence**
- **Comprehensive Offering**



### Industry Leadership

Training and education are extremely important to the growth of our industry. Along with our involvement in the Web Handling Research Center at Oklahoma State University, we are proud to sponsor a number of training opportunities, including Maxcess University, on-site and online training that covers the theory and implementation of web handling technology in multiple formats that are easy to use and understand.



Being light does not make you smarter. Unless, of course, you're talking about shafts. This super-lightweight line of Tidland shafts matches the weight that can reasonably be lifted by a single person, without sacrificing quality or performance. Ergonomically speaking, that's pretty smart.

**GX Ultra-Lightweight External Element Shaft**

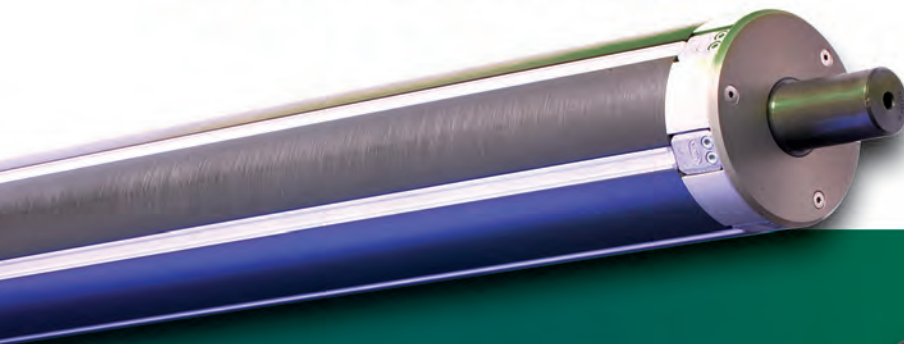
**Light- to Standard-Duty**

3" (76 mm) and 6" (152 mm) ID Cores

These are the lightest shafts we make, delivering ergonomic benefits as well as high performance. With their combination of lightweight, affordability and innovative two-piece external element design, these versatile shafts are ideal for use in many applications.

Feature	Benefit
• Lightweight construction	• Reduces risk of operator injury
• Two-piece element design	• Easily changed without removing from machine
• Isolated air system	• Enables completion of roll run without loss of grip on core
• Rubber/Aluminum gripping element	• Positive core grip for a variety of application demands

**GX Ultra-Lightweight**



**Ultrashaft™ – Lightweight Carbon Fiber Shafts**

**Light- to Heavy-Duty**

3" (76 mm) to 6" (152 mm) ID Cores

The Ultrashaft™ combines the durability required to carry heavy loads and the reduced deflection required to operate at higher speeds without vibration in a light-weight, ergonomic carbon fiber winding solution. These shafts are constructed with precision wound, high-strength carbon filaments to provide a section modulus with a weight-to-strength ratio optimized for a wide variety of applications.

Ultrashaft Carbon Fiber Shafts are available in the following designs for 3" (76 mm) to 6" (152 mm) ID cores:

- Pad-Type Air Shaft
- B-Lug-Type Air Shaft
- Lug-Type Air Shaft (Air and Mechanical)
- Tubular Mandrel

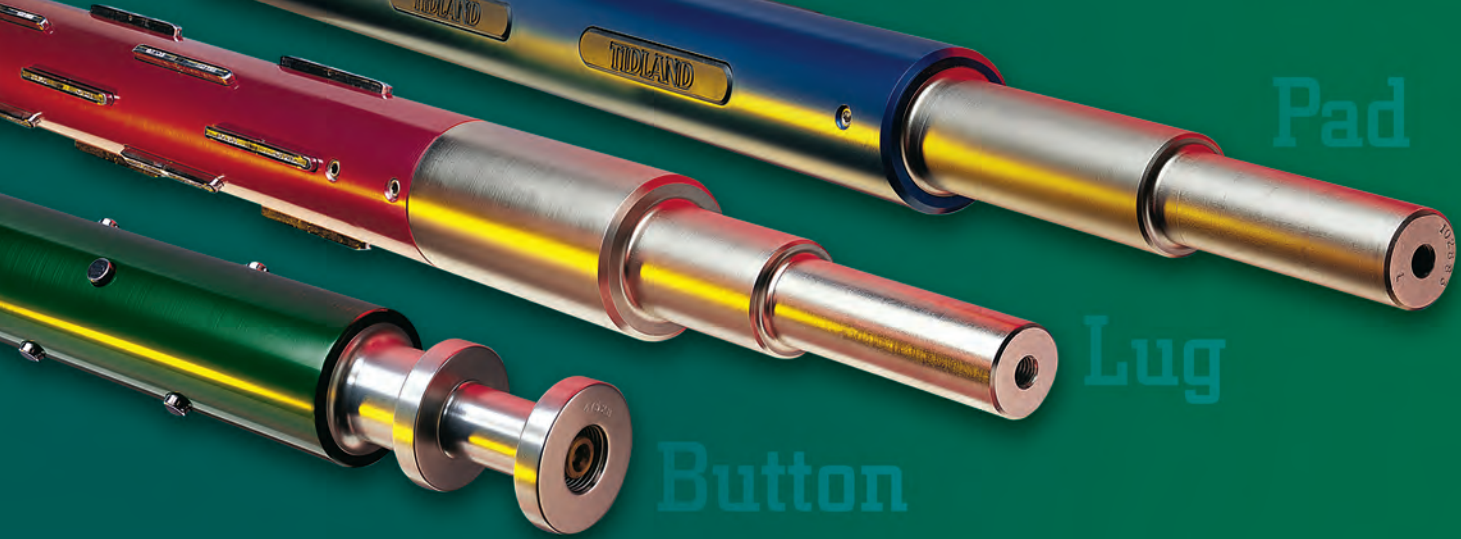
**New Ultrashaft™ with X<sub>PRO</sub>10**

The innovative X<sub>PRO</sub>10 features a unique flexible polymer coating over a lightweight carbon fiber shaft, protecting the shaft from the normal wear and tear of daily operations. Not only does this coating deliver increased durability and lighter weight, it also reduces downtime and replacement costs associated with metallic sleeves.

Feature	Benefit
• Lightweight construction	• Reduces risk of operator injury
• High-strength carbon fiber design	• Permits higher speeds, higher loads and minimal deflection
• X <sub>PRO</sub> 10 coating	• Reduces core wear, eliminates safety issues associated with traditional metallic sleeves

**Ultrashaft X<sub>PRO</sub>10**

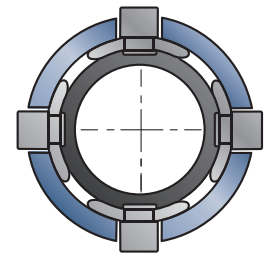




## C O R E S H A F T S - U N W I N D

### Common Unwind/Rewind Shaft Features and Benefits:

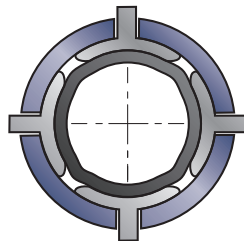
Feature	Benefit
• Custom journal design	• Fits existing equipment
• Available in many sizes	• Accommodates most application requirements
• Durable construction	• Long life, low maintenance
• Modular air systems	• Reusable hardware/lower repair costs
• Steel, alloy, aluminum construction	• Optimum material selected based upon application needs



**Series 450 Button Shaft**  
**Light- to Standard-Duty**  
 1 1/2" (38 mm) to 6" (152 mm) ID Cores

### Lug Shafts

Offered as air-expanding or mechanical-expanding, Lug Shafts deliver superior performance for most converting applications. The serrated steel lug-style design prevents roll slippage through fast acceleration and deceleration, and minimizes vibration at high web speeds.



**Series 500 Lug Shaft - Air**  
**Light- to Heavy-Duty**  
 2" (50 mm) to 6" (152 mm) ID Cores

**Series 550 Lug Shaft - Mechanical**  
**Standard- to Heavy-Duty**  
 3" (76 mm) and 6" (152 mm) ID Cores

Feature	Benefit
• Serrated steel, lug-style design	• Prevents slippage during acceleration and e-stops
• Non-metallic springs	• Long bladder life
• Mechanical lug activation	• Superior torque for your most demanding applications

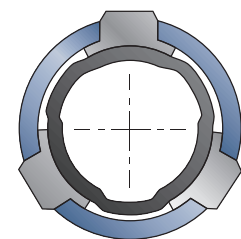
### Button Shafts

Versatile, low cost shafts offering highly efficient winding and unwinding capabilities in all types of converting operations. These popular shafts use round buttons as gripping elements.

Feature	Benefit
• Button-style design	• Maximum versatility and value
• Exceptional strength	• High load carrying capacity and durability

### Pad Shafts

These lightweight shafts are an economical choice for light- to standard-duty applications. Pad shafts use molded rubber for the gripping elements.



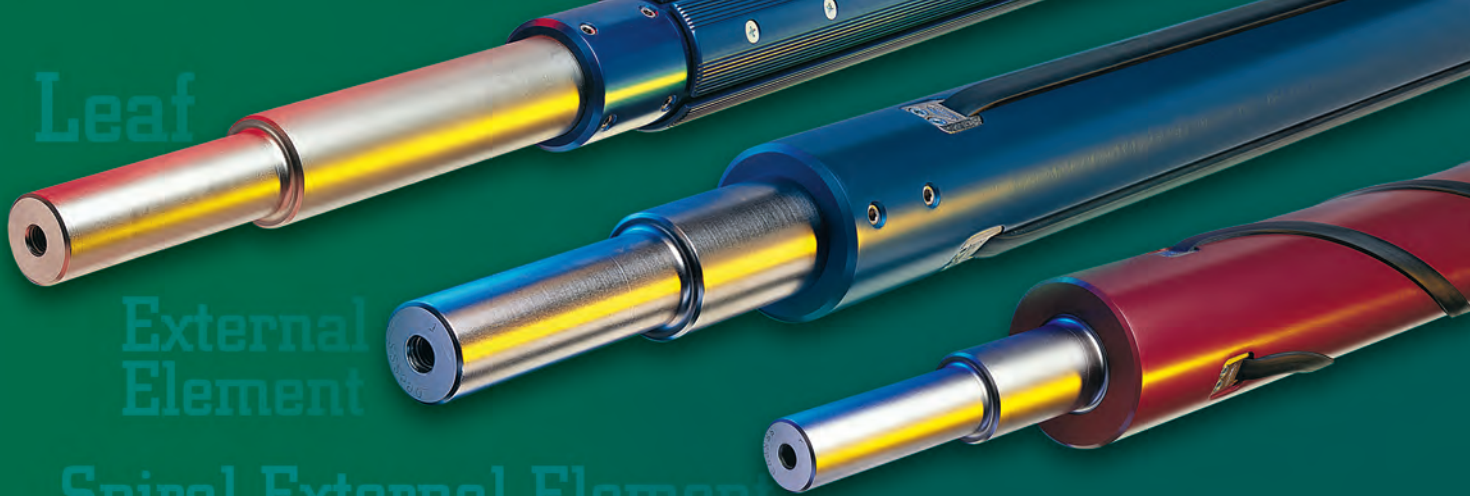
**Series 300 Pad Shaft**  
**Light- to Standard-Duty**  
 1" (25 mm) to 6" (152 mm) ID Cores

Feature	Benefit
• Pad-style design	• Lightweight construction
• No metallic spring	• Long bladder life

Leaf

External  
Element

Spiral External Element

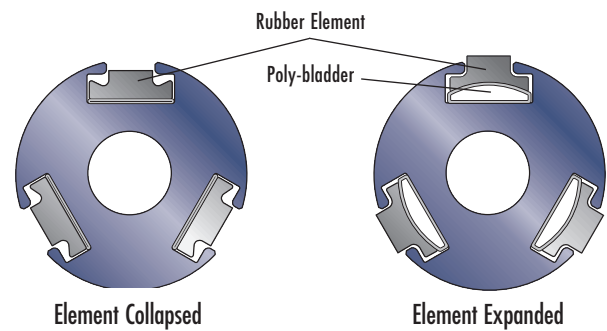


C O R E S H A F T S - R E W I N D

**Leaf Shafts**

Durable and reliable, these Leaf Shafts are designed to handle a wide range of converting applications, and are best for the elimination of thin wall core deformation. With smooth, polished external leaves, these shafts are particularly suited for delicate materials.

Feature	Benefit
<ul style="list-style-type: none"> <li>• Full-length leaf-style design</li> </ul>	<ul style="list-style-type: none"> <li>• More winding surface, eliminating thin wall core deformation, provide positive grip on multiple cores with inside diameter variation</li> </ul>
<ul style="list-style-type: none"> <li>• 360° radial expanding grip</li> </ul>	<ul style="list-style-type: none"> <li>• Can wind single or multiple rolls, with or without cores</li> </ul>

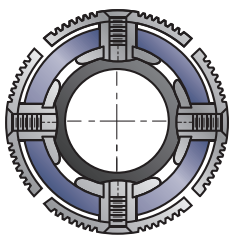


**External Element Shaft  
Standard- to Heavy-Duty**

1.5" (37.5 mm) to 16" (406 mm) ID Cores

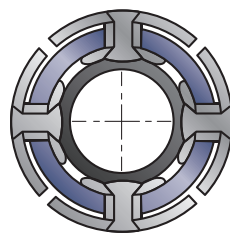
This shaft's full-length external element design delivers excellent torque characteristics, making the Series 800 ideal for general duty rewind and unwind applications.

Feature	Benefit
<ul style="list-style-type: none"> <li>• Two-piece element design</li> </ul>	<ul style="list-style-type: none"> <li>• Easily changed without removing from machine</li> </ul>
<ul style="list-style-type: none"> <li>• Isolated Air System</li> </ul>	<ul style="list-style-type: none"> <li>• Enables completion of roll run without loss of grip on core</li> </ul>
<ul style="list-style-type: none"> <li>• Rubber/Aluminum External Elements</li> </ul>	<ul style="list-style-type: none"> <li>• Positive core grip for a variety of application demands</li> </ul>
<ul style="list-style-type: none"> <li>• Patented Spiral Element</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates vibration against surface rolls</li> </ul>



**Series 650 Leaf Shaft  
Light- to Standard-Duty**

1.5" (50 mm) to 6" (152 mm) ID Cores/Coreless



**Series 600 Leaf Shaft  
Standard- to Heavy-Duty**

2" (50 mm) to 6" (152 mm) ID Cores/Coreless

**External Element Air Shafts**

Advanced technology. Remarkable performance. With our innovative two-piece expanding elements, these shafts combine the balance and torque you need with the safety and reliability you want. This unique design features a fail-safe multi-circuit air system. Check valves ensure that a loss of air in one element will not affect the expansion and performance of the other elements.

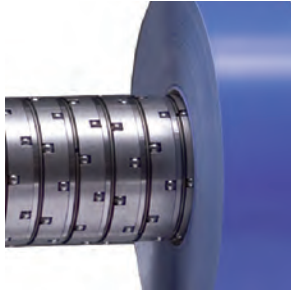
**Spiral External Element Shaft  
Standard- to Heavy-Duty**

3" (76 mm) to 16" (406 mm) ID Cores

The unique spiral design of the Series 850 provides 360° of radial grip and intrinsically equalized load distribution. By minimizing vibration, the Series 850 delivers smoother operation and higher speeds than any air shaft on the market, making it an ideal choice for surface winders or with lay-on rolls.

### Differential Air Shafts

Tidland's breakthrough Differential Air Shafts are designed to deliver multiple roll tension equalization to slit rolls winding on the same shaft for duplex center or surface winders – engineered for tension ranges down to 0.2 pli.



D4 Core-Lock Cartridges

The advanced features of these shafts hold rolls straight and true, reduce roll loping and offer positive mechanical locking to prevent lateral roll movement, providing improved finished roll quality, reduced scrap and fast, easy setups.

### D2 Core-Slip Differential Shaft (Manual Core Stops)

Optimum control over roll quality and setup time.  
3" (76 mm) to 16" (406 mm) ID Cores

Feature	Benefit
• Mechanical, adjustable core stops	• Allows for a variety of setup
• Locked core stops between runs	• Quicker setup time, repeatable core stop positions with the same roll sets
• Core-friendly tension segments and core stops	• Reduced dust
• Minimum friction on shaft OD and tension segments	• Tension equalization accuracy

### D3 Core-Slip Differential Shaft (Automated Core Stops)

Fast automatic or manual setups, high quality roll structure.  
3" (76 mm) to 16" (406 mm) ID Cores

Feature	Benefit
• Positive mechanical core stop	• Guarantees no lateral core movement
• Modular tension cartridge	• Quick, convenient maintenance
• Automatic core position locking	• No tools, reduce setup time
• Run different slit widths on same shaft	• Maximizes job setup with least number of runs
• No spacers	• Reduce setup time

### D4 Core-Lock Differential Shaft

High quality roll structure with no dust.  
3" (76 mm) and 6" (152 mm) ID Cores

Feature	Benefit
• Positive core-locking cartridge design	• Eliminates dust
• Large through-shaft diameter	• Increased load capacity
• Two-row, 12-ball, torque activated design	• Concentric roll support and superior roll build quality
• Pneumatic, frictional torque control	• Consistent, predictable tension equalization

## D2 Core-Slip

## D3 Core-Slip

## D4 Core-Lock







Reel Spool - Spiral External Element

**Mill-Duty Air Shafts**

The Series 860 Reel Spool is a heavy-duty air shaft designed for maximum reliability and performance in demanding mill environments, reducing the cost and storage of expensive reel spool mandrels. Using the spiral strip design, this shaft eliminates critical speed and vibration issues that prevent successful turn-ups and splices. Its ergonomic design also provides increased safety by eliminating the need for dangerous locking collars or wrenches.

**Mill Duty Shafts**

**Reel Spool - Spiral External Element**

Up to 24" (610 mm) ID Cores

**Reel Spool - Non-Expanding Mandrel**

7" (178 mm) to 24" (610 mm) ID Cores

**Series 480 Button Shaft**

7" (178 mm) to 24" (610 mm) ID Cores and over

**Series 750 Leaf Shaft**

7" (178 mm) to 24" (610 mm) ID Cores and over/Coreless

**Light Metals**

**Series 750 Leaf Shaft**

**Heavy-Duty**

Up to 24" (610 mm) ID Cores

These shafts provide maximum torque for high web tension, ensuring smooth operation in both unwind and rewind applications. Leaf options include knurling for increased torque, case hardening for wear resistance and serpentine leaf edges or core-centering bars to minimize vibration from a nip roll.

Feature	Benefit
• Maximum torque, high web tensions	• Ensures reliable operation
• Durable external leaves	• Ideal for fiber, steel, or aluminum cores
• Journal detail customizable	• Fits existing equipment
• Serpentine external leaf profile	• Minimizes vibration against nip drum



Series 750 Leaf Shaft - Light Metals

Feature	Benefit
• Mill-duty construction	• Ideal for demanding mill environments
• Patented spiral element design	• 360° radial grip/equalized load distribution/minimum vibration at turn-up
• External expanding elements	• Air system maintenance without removing journals from spool
• Quick-disconnect air valve	• Ergonomic design/ease of inflation/insures full inflation and complete deflation
• Isolated air system	• Core grip sustained enabling completion of roll even if bladder fails



## Great Expansion Shafts

### XP Great Expansion Shafts

6" (152 mm) to 16" (406 mm) ID Cores

Taking versatility to new heights, these new shafts from Tidland are specifically designed for applications where variations in core sizes from suppliers are common. Operators can adjust the core diameter of the shaft while it remains on the machine, eliminating the need to stock multiple shafts and drastically reducing setup time.



XP Great Expansion Shaft

## Narrow Web Shafts and Core Holders

3" (76 mm) ID Cores

Narrow web shafts and chucks deliver quality and reliability to narrow web applications, such as label presses. Options include:

**Roll Centering Leaf Shaft** - Three leaf design minimizes thin wall core deformation and improves roll quality. For rewinds, special centering ribs between expanding leaves position cores closer to the center of a rotation, resulting in better-quality finished rolls.

**External Element Shaft** - Designed for close tolerance cores on unwinds and for thicker walled cores on rewind.

Feature	Benefit
<ul style="list-style-type: none"> <li>Specifically engineered for label press applications</li> </ul>	<ul style="list-style-type: none"> <li>Reliable, affordable solutions</li> </ul>
<ul style="list-style-type: none"> <li>Cantilevered, drop-in, flange, or bar mounting</li> </ul>	<ul style="list-style-type: none"> <li>Fits almost any application</li> </ul>

**External Element Core Holder** - Designed for bar mounting, interchangeable to hold other core sizes, axial adjustment requirements.

**Automatic Lug Chuck** - For economical die cut and trim removal in narrow web applications.



Whether taking advantage of emerging technologies or adapting to new market opportunities, at Tidland, the evolution of winding is well under way. Adding innovative 'Smart' features and technologies to our rugged pneumatic brakes, Tidland has improved heat dissipation and provided greater productivity to create the new Smart Brake.

### Smart Brake

The Smart Brake provides continuous, accurate tension as the converting material pays into the process to produce the highest-quality finished rolls possible.

Innovative smart technology features – pad wear indicator, heat detection, integrated cooling features and tension control feedback – offer reliable performance as well as predictive and toolless maintenance to minimize downtime and keep your operations running smoothly.



Feature	Benefit
• New design allows easy access to vital components and toolless pad replacement	• Minimize process downtime
• Electronic pad wear detection with external indicator	• Enables predictive maintenance and replacement based on actual pad wear
• Thermal detection and auto-cooling functions	• Maximum heat dissipation in a wide range of applications
• Embedded communication output to log and monitor performance data	• Integrate into a closed-loop tension control system for long-term performance optimization

### Pneumatic Brakes

Tidland's original Pneumatic Brakes are still available as a simple solution for light-to medium-duty applications. Like the Smart Brake, these popular pneumatic brakes provide the design specifications and operating sensitivity required to fully integrate tension control components.

### Safety Chucks

Tidland System Boschert Safety Chucks are designed as a pre-engineered solution for roll support and torque transfer. These affordable Safety Chucks are available in a wide range of sizes and options, and are very effective in light- to medium-duty, and some heavy-duty applications. Available for flange or pedestal mounting.



Feature	Benefit
• Replaceable hardened inserts	• Long life, reduced cost
• Unique self-closing handwheel design	• Increased safety
• Available in many sizes/options	• Suitable for almost any application
• Durable construction	• Long life, low maintenance
• Square or triangular saddles	• Maximum torque transfer, ease of loading

### Tension Controls

MAGPOWR Tension Control Systems, in combination with Tidland's new Smart Brake, deliver the most advanced web handling solution on the market. Real-time communication of thermal temperature and pad wear from the Smart Brake can be used to automatically control operation and improve tension regulation for higher speed and greater accuracy. Choose Cygnus Tension Control for unwind applications using an idler roll and load cells or applications using an ultrasonic roll diameter measuring system.



## Shaftless Chucks

### Raptor Series

Whether you're running air powered or torque actuated chucks, the key to preventing core damage is a firm, tight grip. The new Air Powered Lug and Torque Chucks feature wide-footprint lugs to provide a consistent grip on the core, without damaging the inside. This means no more tugging, pulling or pounding to remove the chucks at the end of a run. The chucks are also designed for on-machine maintenance and toolless adapter changes, reducing downtime and risk of injury to the operator. Switch core sizes with two easy steps, in less than 5 seconds. Faster speed, stronger grip - no wonder they're called Raptors.



Wide-Footprint Lug

### Common Raptor Series Shaftless Chucks Features and Benefits:

Feature	Benefit
• Wide-footprint lug	• Eliminates core damage/sticking rolls/wasted product
• Durable construction	• Long life, low maintenance
• Toolless adapter allows users to switch core sizes	• Reduces downtime and additional component costs
• Absolute core centering	• Insures web stability into process for maximum productivity
• On machine maintenance capability	• Reduces downtime and risk of ergonomic lifting hazard

### Torque Chucks

3" (76 mm) to 12" (305 mm) ID Cores

Raptor Series Torque Chucks are engineered for continuous-duty shaftless applications. The new Torque Chucks deliver substantial torque output and are ideal for corrugating, sheeting, paper finishing or laminating.

Feature	Benefit
• Torque activated expansion using precision ground rollers	• Maximum grip at all speeds
• Expansion, retraction and disengagement requires no operator intervention, tools or air supply	• Supports automated process objectives/eliminates sticking rolls



Raptor Series Torque Chucks with Toolless Adaptor

**Air Powered Lug Chuck**

3" (76 mm) to 12" (305 mm) ID Cores

Raptor Series Air Powered Lug Chucks are easy to use and maintain, and help eliminate the core damage usually associated with shaftless applications. The Lug Chuck is ideal for high speed printing, laminating, sheeting applications on unwind flying or zero speed splicers.



Feature	Benefit
<ul style="list-style-type: none"> <li>• Positive, mechanical retraction of lugs</li> </ul>	<ul style="list-style-type: none"> <li>• Prevents sticking lugs during normal operation</li> </ul>
<ul style="list-style-type: none"> <li>• Wide-footprint lug</li> </ul>	<ul style="list-style-type: none"> <li>• Non-destructive torque transfer enables re-use of cores</li> </ul>
<ul style="list-style-type: none"> <li>• Pneumatic actuation</li> </ul>	<ul style="list-style-type: none"> <li>• Sustains positive core grip throughout roll cycle</li> </ul>

**Air Chucks**

**Standard Air Chucks**

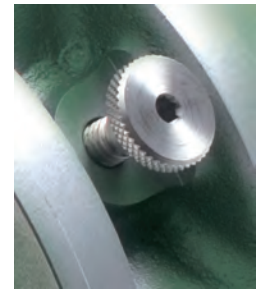
4" (76 mm) to 20" (304 mm) ID Cores and over

Rugged, high-torque air chucks designed for winding and unwinding with shafts or in shaftless applications. Tidland Air Chucks are economical and lightweight.

Feature	Benefit
<ul style="list-style-type: none"> <li>• Designed to work with or without shafts</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum rotational control in Unwind/Rewind applications</li> </ul>
<ul style="list-style-type: none"> <li>• Gripping force spread over a wide area</li> </ul>	<ul style="list-style-type: none"> <li>• Prevents slippage and increases core life</li> </ul>
<ul style="list-style-type: none"> <li>• Easy to use</li> </ul>	<ul style="list-style-type: none"> <li>• Maximizes productivity</li> </ul>
<ul style="list-style-type: none"> <li>• Simplicity of design</li> </ul>	<ul style="list-style-type: none"> <li>• Trouble-free operation</li> </ul>

**Core Size Adapter**

The Raptor Series Core Size Adapter works with Air Powered Lug Chucks and Torque Chucks (not available for the 4" Torque Chuck). A wide variety of sizes are available, allowing toolless core-size changes without removing the chuck from the machine, reducing downtime and risk of injury to the operator.



Adapter Tightening Screw

**Other Shaftless Chucks**

**Mechanical Chucks**

3" (76 mm) to 6" (152 mm) ID Cores

**Force5 Air Chucks**

5.91" (150 mm) or 6" (152 mm) ID Cores

The Force5 Air Chuck offers a lightweight alternative to aluminum chucks, providing unmistakable ergonomic benefits to operators. The specially-engineered polymer expanding element is not only designed for high durability in extreme conditions, but retains its shape over time for ease of insertion and removal.

Feature	Benefit
<ul style="list-style-type: none"> <li>• Lightest weight</li> </ul>	<ul style="list-style-type: none"> <li>• Easier handling</li> </ul>
<ul style="list-style-type: none"> <li>• Wide area gripping force</li> </ul>	<ul style="list-style-type: none"> <li>• More holding power on the core</li> </ul>
<ul style="list-style-type: none"> <li>• Highest durability</li> </ul>	<ul style="list-style-type: none"> <li>• Long-lasting, dependable</li> </ul>
<ul style="list-style-type: none"> <li>• Easiest core insertion and removal</li> </ul>	<ul style="list-style-type: none"> <li>• Faster setups and core changes</li> </ul>

### Tidland Factory Repair

When you send a shaft in for repair, only Tidland can give you a true shaft condition and function assessment. And with convenient locations on both the East and West coasts, as well as locations worldwide, we can provide quick turnaround to help get your system up and running as fast as possible. All repairs come with a six-month warranty.



### Accessories

Tidland offers a complete line of accessories to keep your winding products running at peak efficiency, including technical literature with tips on use and care of our products. And because we stock what we sell, we're able to ship your order immediately.



Mark I and Mark II Roll Savers

#### • Operation

- Inflation and deflation tools and hoses for shafts and chucks
- Drive couplings
- Collars
- Roll Savers

#### • Maintenance

- Element punch kits
- Journal impact pullers

- **Roll Savers** – Available to reopen crushed cores, enabling you to convert scrap rolls into usable materials. These durable Roll Savers are easy to operate, feature hydraulic power up to four tons, and work virtually anywhere. Tidland's Mark I and Mark II standard Roll Savers restore 3-inch cores. The Mark I is available with multi-core size adapters for 4, 5, 6, and 6 3/4-inch cores.

Feature	Benefit
• Delivers over 9,000 psi	• Re-opens even the most damaged cores
• Lightweight, easy to use	• Fast results without special training
• Durable construction	• Long life, low maintenance

PRODUCT SELECTION CHART

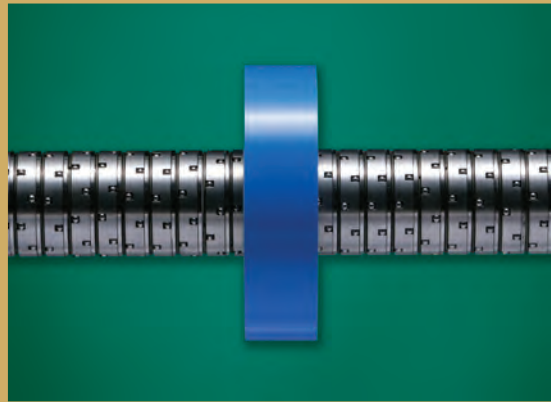
Use this chart to find the Tidland products that best suit your application needs. Customized solutions are also available. For assistance, please call one of our local sales engineers at 800-426-1000, or visit us at [www.tidland.com](http://www.tidland.com).

	General Converting		Non-wovens		Narrow Web	Publication Press Splicers	Corrugating	Laminating/Coating	Film Extruders	Flexography	Paper/Tissue	Metals	Tissue & Personal Care	Tire & Rubber			
	Light Duty	Standard Duty	Heavy/Wide	Standard Duty	Wide/High-Speed	Standard Duty	Heavy Duty	Standard Duty	Standard Duty	Wide/High-Speed	Standard Duty	Heavy Duty	Mill Duty	Light Duty	Heavy Duty	Standard Duty	Standard Duty
<b>ERGONOMIC SHAFT SOLUTIONS</b>																	
GX Ultra-Lightweight Shaft	X			X		X			X				X			X	
Pad-Type Ultrashaft™ with X <sub>PRO</sub> 10	X			X												X	
B-Lug-Type Ultrashaft™ with X <sub>PRO</sub> 10						X			X								
Lug-Type Ultrashaft™ with X <sub>PRO</sub> 10 - Air		X	X		X	X	X	X	X						X	X	X
Lug-Type Ultrashaft™ - Mechanical			X			X	X			X				X			
Force5 Chuck Shaft	X	X	X	X				X	X							X	X
<b>CORE SHAFTS - UNWIND</b>																	
Series 500 Lug Shaft - Air		X	X	X	X		X	X	X		X				X	X	X
Series 550 Lug Shaft - Mechanical			X				X	X							X		
Series 450 Button Shaft	X	X		X				X	X		X			X		X	X
Series 300 Pad Shaft	X			X		X										X	
<b>CORE SHAFTS - REWIND</b>																	
Series 600 Leaf Shaft			X		X						X						
Series 650 Leaf Shaft	X	X				X				X			X				X
Series 800 External Element Shaft		X		X						X			X			X	
Series 850 Spiral External Element Shaft		X		X													
<b>CORE SHAFTS - DIFFERENTIAL</b>																	
	X	X		X		X		X									
<b>SPECIALIZED SHAFT SOLUTIONS</b>																	
Mill-Duty Air Shafts/Reel Spools								X			X		X		X		X
XP Great Expansion Shafts		X	X	X													
Narrow Web Shafts				X		X											
<b>CORE CHUCKS</b>																	
Raptor Series Air-Powered Lug Chucks	X	X	X				X	X	X				X	X		X	
Raptor Series Torque Chucks		X	X				X						X	X		X	
Force5 Air Chucks	X	X		X				X	X		X		X			X	
Standard Air Chucks	X	X		X				X	X		X		X			X	
<b>BRAKES, TENSION CONTROL AND SAFETY CHUCKS</b>																	
Tension Control	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Boschert Safety Chucks	X	X	X		X		X	X		X		X	X	X		X	
Smart Brake		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X



**Tidland Corporation**

2305 SE 8th Avenue  
Camas, WA 98607, USA  
1-800-426-1000  
Phone: +1 360-834-2345  
Fax: +1 360-834-5865  
Web: [www.tidland.com](http://www.tidland.com)



**MAXCESS INTERNATIONAL COMPANIES**

EUROPE (49) 6195.7002.0  
ASIA (65) 834.1998  
[www.maxcessintl.com](http://www.maxcessintl.com)



**GUIDING · INSPECTION**

1.800.639.3433  
405.755.1600  
[www.fife.com](http://www.fife.com)



**TENSION CONTROL**

1.800.MAGPOWR  
405.755.1600  
[www.magpowr.com](http://www.magpowr.com)



**SLITTING · WINDING**

1.800.426.1000  
360.834.2345  
[www.tidland.com](http://www.tidland.com)