



**TB Wood's  
& Ameridrives  
Products  
for the  
Oil and Gas  
Industry**



## WITH THOUSANDS OF OIL AND GAS RIGS ACROSS NORTH AMERICA AND THE WORLD, THE RIG MARKET IS BROAD AND EXTREMELY IMPORTANT.

TB Wood's has a long history of providing superior quality V-belt drives, elastomeric couplings and metallic couplings to the oil and gas industries. From rigs to refineries, TB Wood's provides superior products to meet general and specific application requirements including Rotary Drilling Rigs, Artificial Lift, Gas Production and Coal-Bed Methane Extraction. Typical applications moving air and liquid use V-belt drives, elastomeric couplings and metallic couplings.



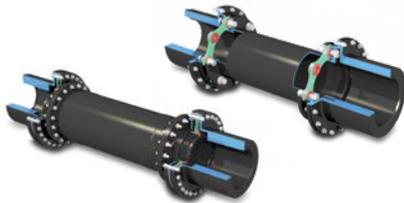
### Sheaves and Synchronous Sprockets

- 3V, 5V, and 8V Narrow belt sheaves – QD bushed.
- B, C and D Classical belt sheaves – QD bushed.
- Synchronous Sprockets.
- Premium and Banded belts also available.

#### Made-to-Order (MTO Sheaves)

TB Wood's combines the widest range of belted drives, V-belt or Synchronous, with unmatched made-to-order capabilities to accommodate the oil and gas industry.

- Offset Series for Mud Pumps
- GE 752 Series Sheaves
- Large Bushings (P, W, & S)



### Ameriflex® Couplings

**9,000,000 in.lbs torque capacity and higher available**

#### Ameriflex® Diaphragm Couplings

Unique diaphragm design permits high-torque density and low weight.

- API-671 compliant
- Best for high travel requirements

#### Ameriflex® Disc Couplings

Optimized disc profile for even stress distribution. Proprietary disc coating to prevent fretting and corrosion.

- API-671 complaint
- Best for reduced moment applications



### Form-Flex® and Torsiflex-i

**Available in sizes .01 to 3,000 HP at 100 RPM**

Flexible disc couplings transmit torque with zero backlash while compensating for angular and parallel misalignment. No lubrication – ideal replacement for high-maintenance lube couplings.

Available in numerous materials and coatings including a composite shaft version used in cooling tower floating-shaft couplings. Close-coupled, spacer and floating-shaft designs available.



### Dura-Flex®

**Available in sizes 1 to 1,000 HP at 1,750 RPM**

Dura-Flex® couplings “split-in-half” element design allows for easy element installation/ replacement without moving connected equipment or disturbing the shaft connection. Spacer design can accommodate a large range of shaft spacing with few parts. Patented design minimizes bond stress for long coupling life. Highly flexible and able to accommodate shaft misalignment while minimizing vibration and preventing damage to connected equipment.



### Amerigear

**Up to 6,680 kNm; 60,000,000 in.lbs**

Fully-crowned gear teeth provide operational benefits including maximum load-carrying capacity with minimum size, maximum reliability and long life.

- Both “O” ring and metal seal models are available
- Strong, rigid floating sleeve
- Precision-machined identical hub
- Positive dust-tight seals



### Sure-Flex® Plus

**Available in sizes 1 to 2,000 HP at 1,750 RPM**

Sure-Flex Plus is a TB Wood's original! Sure-Flex Plus Couplings utilize a rubber (EPDM or Neoprene) or Hytrel™ thermoplastic flex element (sleeve) to transmit torque and accommodate shaft misalignments. Sure-Flex Plus couplings have exceptional torsional flexibility, and the 4-way flexing action absorbs virtually all types of shock, vibration, misalignment, and end float. Sure-Flex Plus couplings are an excellent choice when low cost, high flexibility, vibration damping, and easy installation are primary concerns.



## ROTARY DRILLING RIGS

Rotary drilling rigs range from 1,000 HP to 4,000 HP and are either electric or mechanical. Rig components will vary with HP and customer specifications.

Components for every petroleum job including oil pumping, pipeline mud service and more. You'll find our MTO and standard V-belt drives are ideal for most pumping applications including:

- Mud pumps, configured up to 1,600 HP
- Hydraulic pumps
- Centrifugal pumps
- Charging pumps
- Cooling pumps
- Fresh water pumps
- Mud mixing pumps
- Mud cleaning pumps
- Duplex pumps
- Triplex pumps

Our high quality Sure-Flex® Plus, Dura-Flex® and Form-Flex® couplings fit most liquid pumping applications.

MTO and standard V-belt drives for blower setups.

V-belt drives with Sure-Flex® Plus and/or Dura-Flex® couplings fit most cooler jobs.



**5V Sheave UC**



**Centrifugal Pumps**



**Cooler Jack Shaft with Sure-Flex® Plus Coupling**



**Form-Flex® 8-Bolt**



## OIL PRODUCTION AND ARTIFICIAL LIFT APPLICATIONS

In many cases, a new well can move oil to the surface due to gas pressure in the well reservoir. The oil is regulated by a series of valves and piping called a “Christmas Tree”.

After the well has lost its ability to free flow, artificial lift equipment is required. “Beam Pumps,” also called “Pump Jacks,” are the most common with well over 800,000 units working in the US alone. Other lift systems are Progressive Cavity Pumps and Electric Submersible Pumps. All of these applications use VBDs and Couplings.

The ideal use of these artificial lift systems is to make sure the well cavity is not depleted of oil and has time to recover. Many undesirable results occur when a well is pumped off! This is the main reason these applications use duty-cycle timers or variable frequency drives to meet, but not exceed, the capabilities of the well.

## PROGRESSIVE CAVITY PUMP

Identifying well conditions is challenging as each well requires experienced judgment to make certain the proper equipment is installed to optimize productivity. Progressive Cavity Pump (PCP) Systems are used in many applications.

- Medium to heavy sand laden crude oil
- Light crude oil with high aromatic content
- Dewatering gas wells
- Coal Bed Methane
- High water cuts
- Horizontal, slant and directional wells
- High temperatures such as SAGD projects (Steam Assisted Gravitational Drainage)

### Beam Pumps

- V-belt Drives

### Progressive Cavity Pumps

- V-belt Drives
- Couplings



Form-Flex® FSH

Jack Shaft with Dura-Flex®

Form-Flex® HSH

MTO GE 722 Sheave  
-Item stocked in many cases

## GAS PRODUCTION AND PROCESSING

With increasing restrictions on emissions, and governments around the world looking for clean energy sources, Natural Gas (NG) is playing an even larger role in meeting these demands. It is the cleanest burning fossil fuel, and abundantly available in most parts of the world. There is also demand in regions that do not have readily available NG, which has now started the trend of exporting Liquefied Natural Gas (LNG) around the world. NG is starting to replace oil based fuels in some parts of the world, and is also used as feed stock for some petrochemical processes.

With this increased demand for NG there is an associated increase in demand for drilling, compressing and processing equipment, as well as storage facilities. All of the equipment used will require some type of power transmission components.

Gear Couplings and V-Belt Drives are commonly used in drilling equipment. All types of couplings and V-Belt drives are used on auxiliary equipment. Flexible disc or engineered elastomer couplings are used on compressors and generator sets. V-Belt drives and elastomer couplings are also commonly used on cooler drives for compressor sets.

But without Gas Compressors the NG could not be economically transported to processing or storage facilities, transferred to power generation stations and petrochemical refineries, or liquefied for export. Without the Gas Compressor, NG would be basically unusable energy. This is why Gas Compressors are a critical component to the global economy.

## GAS COMPRESSORS

Gas Compressors can be grouped into two basic categories; Rotary Compressors and Reciprocating Compressors. These types of compressors can be found in many applications such as:

- NG reinjection into oil reservoirs, when flaring excess gas is not an option
- Gas injection into depleted oil reservoirs to enhance oil production
- Underground NG storage
- Pressure boosting station along transport pipe lines
- NG gathering fields
- Processing Sour NG to clean and usable NG
- Transferring gas to petrochemical facilities
- Turning NG into LNG for easy transport
- Municipal and Commercial NG vehicle fueling stations
- Pulling negative pressure on low pressure or old wells

### Reciprocating Gas Compressors

- Form-Flex® (GCF/GCH and FSH/HSH)

### Coolers for Recips

- V-belt Drives
- Coupled Jack Shafts
- Dura-Flex®

### Screw Compressors

- Form-Flex® (GP Series)
- Torsiflex-i

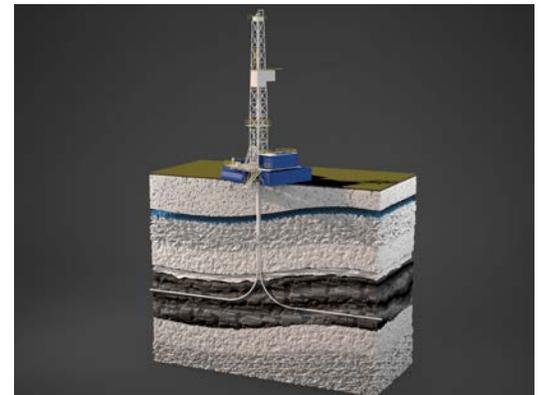
### Blowers for Screw Compressors

- V-belt Drives



## COAL BED METHANE

Coal bed methane travels with ground water in coal seams. The extraction of CBM involves pumping available water from the seam in order to reduce the water pressure that holds gas in the seam. CBM has very low solubility in water and readily separates as pressure decreases, allowing it to be piped out of the well separately from the water. Water moving from the coal seam to the well bore encourages gas migration toward the well. CBM producers try not to dewater the coal seam, but rather seek to decrease the water pressure (or head of water) in the coal seam to just above the top of the seam.



**Coal bed methane extraction process**

### **Centrifugal Pumps**

- V-Belts
- Elastomeric Couplings

### **Blowers**

- V-Belt
- Synchronous Drives

### **Beam Pumps (Pump Jacks)**

- V-Belts



## OIL AND GAS EQUIPMENT REPAIR

TB Wood's not only sells products for building rigs, we also supply parts for any type of repair or replacement you may have with equipment on your rig. Whether it's a duplex or triplex pump, jack shaft coupling, V-belts for blowers, cooling systems or centrifugal pumps — we have your part.

## TB WOOD'S SHEAVES

### Available in Narrow, Classical and Light Duty

- 3V, 5V, and 8V Narrow belt sheaves – QD bushed.
- B, C and D Classical belt sheaves – QD bushed.
- Light Duty (FHP) – bushed and bored to size.

### V-belt drives are available in four belt types:

- Cog V-belts, Cog Banded V-belts, V-belts and Banded V-belts.
- Classical Drives (Conventional).
- Classical, Classical Banded, Classical Cog and Classical Cog Banded Belts.
- Narrow Drives (Ultra V).6
- Light Duty (FHP) capacities to 15 HP.

Bore sizes from 1/2 to 1-1/2 inches, bushed and bored to size.

**Our MTO capabilities and our stocked items are also available.**

### Dura-Flex® Couplings

- Available in sizes 1 to 1,000 HP at 1,750 RPM

### Sure-Flex® Plus Couplings

- Available in Sizes 1 to 2,000 HP at 1,750 RPM

### Gear Couplings

- Available Sizes .01 to 4,000 HP at 100 RPM

### Form-Flex® Couplings

- Available in Sizes .01 to 3,000 HP at 100 RPM

## TB Wood's Facilities

### North America

#### USA

440 North Fifth Avenue  
Chambersburg, PA 17201 - USA  
888-829-6637 \* 717-264-7161

*Belted Drives and Elastomeric Couplings*

#### Customer Service

1-888-829-6637 (Press #5)

#### For Application Support

1-888-829-6637 (Press #7)

2000 Clovis Barker Road  
San Marcos, TX 78666 - USA  
1-888-449-9439

*General Purpose Disc Couplings*

#### Customer Service

1-888-449-9439

4970 Joule St  
Reno, NV 89502 - USA  
775-857-1800

#### Canada

9779 45 Ave NW  
Edmonton, AB T6E 5V8 - Canada  
+1 780-439-7979

6305 Danville Road  
Mississauga, ON L5T 2H7 - Canada  
1-800-829-6631

1073 Rue Bégin  
Saint-Laurent, QC H4R 1V8 - Canada  
+1 514-332-4812

#### Mexico

Comisión Federal de Electricidad 850,  
Industrial San Luis,  
San Luis, S.L.P., 78395 - Mexico  
+52 444 137 1500

## Ameridrives Facilities

### North America

#### USA

1802 Pittsburgh Avenue  
Erie, PA 16502 - USA  
814-480-5000

*Mill Spindles, Ameriflex, Ameridisc,  
Universal Joints, Driveshafts,  
Mill Gear Couplings*

2000 Clovis Barker Road  
San Marcos, TX 78666 - USA  
888-449-9439

*Gear Couplings, Small Industrial  
Driveshafts*

300 Indiana Highway 212  
Michigan City, IN 46360  
219-874-5248

*Irrigation Universal Driveshafts*

## The Brands of Altra Industrial Motion

### Couplings

**Ameridrives**  
[www.ameridrives.com](http://www.ameridrives.com)

**Bibby Turboflex**  
[www.bibbyturboflex.com](http://www.bibbyturboflex.com)

**Guardian Couplings**  
[www.guardiancouplings.com](http://www.guardiancouplings.com)

**Huco**  
[www.huco.com](http://www.huco.com)

**Lamiflex Couplings**  
[www.lamiflexcouplings.com](http://www.lamiflexcouplings.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Geared Cam Limit Switches

**Stromag**  
[www.stromag.com](http://www.stromag.com)

### Electric Clutches & Brakes

**Inertia Dynamics**  
[www.idicb.com](http://www.idicb.com)

**Matrix**  
[www.matrix-international.com](http://www.matrix-international.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Warner Electric**  
[www.warnerelectric.com](http://www.warnerelectric.com)

### Linear Products

**Warner Linear**  
[www.warnerlinear.com](http://www.warnerlinear.com)

### Engineered Bearing Assemblies

**Kilian**  
[www.kilianbearings.com](http://www.kilianbearings.com)

### Heavy Duty Clutches & Brakes

**Industrial Clutch**  
[www.indclutch.com](http://www.indclutch.com)

**Twiflex**  
[www.twiflex.com](http://www.twiflex.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Svendborg Brakes**  
[www.svendborg-brakes.com](http://www.svendborg-brakes.com)

**Wichita Clutch**  
[www.wichitaclutch.com](http://www.wichitaclutch.com)

### Belted Drives

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Gearing

**Bauer Gear Motor**  
[www.bauergears.com](http://www.bauergears.com)

**Boston Gear**  
[www.bostongear.com](http://www.bostongear.com)

**Delroyd Worm Gear**  
[www.delroyd.com](http://www.delroyd.com)

**Nuttall Gear**  
[www.nuttallgear.com](http://www.nuttallgear.com)

### Overrunning Clutches

**Formsprag Clutch**  
[www.formsprag.com](http://www.formsprag.com)

**Marland Clutch**  
[www.marland.com](http://www.marland.com)

**Stieber**  
[www.stieberclutch.com](http://www.stieberclutch.com)

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P-7823-C 3/18