

ThorburnFlex

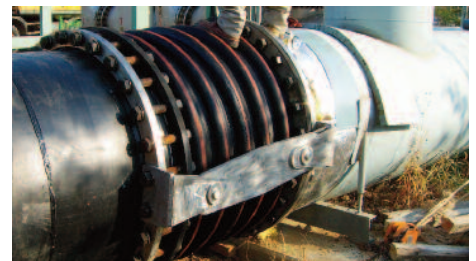
Specialty Rubber Flexible Piping,
Connectors & Expansion Joints



Wire Reinforced Rubbe Flexpipe



Rubber Expansion Joints



Custom Rubber Expansion Joints

MATERIAL PROCESSING

Engineered Solutions For Pipe Motion



www.thorburnflex.com

Thorburn's 60TMH™ Flexpipe Hose Assemblies



Thorburn 60TMH™ Flexpipe is a custom designed rubber piping system that replaces metal, rigid or flexible pipe and is used in lines requiring resistance to electrolysis, corrosion, abrasion and water hammering. 60TMH™ Flexpipe is specifically engineered for piping systems that require isolation and absorption of severe noise, vibration, misalignment, lateral deflection and flexing caused by temperature changes and ship to shore movement.



Advantages

- Sizes 25mm to 2000mm and pressures up to 500psi (35 bar) and full vacuum
- Continuous length up to 15m with standard ANSI or DIN flange bolting
- Resists electrolysis, extreme corrosion, abrasion and water hammering
- Engineered to absorb severe noise and vibration
- Accommodates misalignment & lateral deflection
- Available with smooth or corrugated tube & cover to augment flexibility
- Available in various elastomers to suit application and environmental conditions

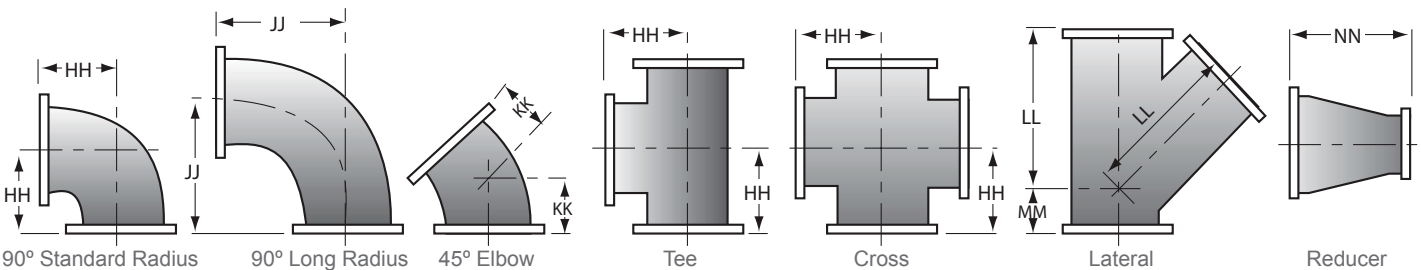
Thorburn 60TMH™ Handcrafted Rubber Pipe Fittings

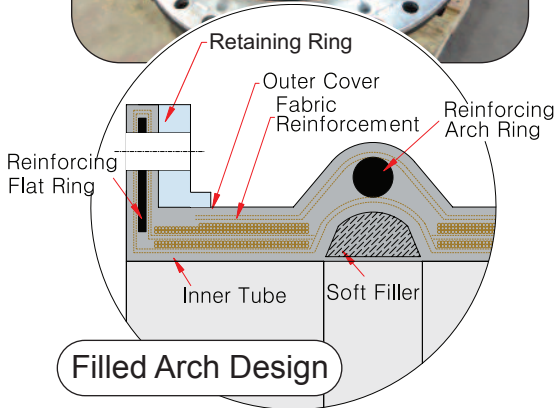
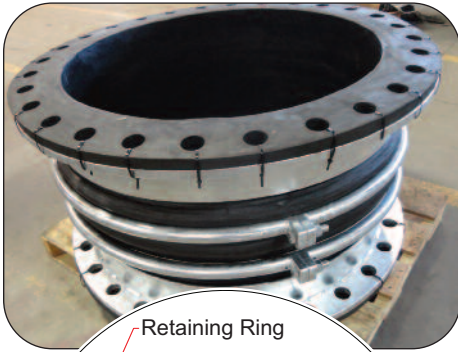


Thorburn's 60TMH™ special handcrafted rubber fittings are strong, rugged and flexible. They will reduce noise and vibration from pumps, compressors and other equipment and allow for misalignment where abrasion or corrosion will damage normal piping. Available with tangents and custom offset types to absorb extreme angular or lateral deflection in tight spaces.

Advantages

- Sizes up to 600mm & pressure up to 500psi (35 bar)
- Absorbs noise, vibration and ground settling
- Relieves pipe stress and strain & protects pump casing





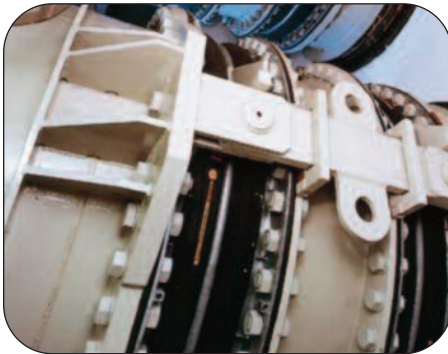
Thorburn Custom Rubber Expansion Joints

Thorburn's rubber expansion joints are used to absorb movements in all directions and are capable of absorbing preventing unexpected shock induced movements caused by pumps, blowers, ship to shore movements and other agitating equipment. Sizes from 25mm to 4000mm and pressures up to 500psi (35 bar) and full vacuum.

Rubber Advantages

- **Superior abrasion, erosion & corrosion resistance**
Smooth abrasion resistant lining protects the joint from sea water, slurry and other abrasive media.
- **Vibration and sound absorption with high resistance to shock**
Absorbs transmission of vibration without stress
- **Freedom from embrittlement**
Flexing keeps the rubber "alive" and eliminates flex cracking
- **Great recovery from movement**
Continues to return to its original position.

Rubber Hinged/Gimbal Expansion Joints



Thorburn's Rubber Hinge Expansion Joints are typically used in sets of two or three, to absorb pipe movement in one or more directions in a single plane piping system. Each individual joint in the system is restricted to pure angular rotation by its hinges.

Thorburn's Rubber Gimbal Expansion Joints incorporate a pair of hinges connected to a common floating gimbal ring that provides for close control of movement imposed upon the bellows while supporting the dead weight of the piping system. Wind loading and shear loads are also transmitted through the gimbal structure.

42HPWH/62HPWH Hinge Advantages

- Angular motion in one plane only
- Eliminates pressure thrust forces
- No main anchors required
- Low forces on piping system
- Prevents torsion loads on rubber bellows
- Filled Arch Design Prevents Media Sediment buildup

42HPWG/62HPWG Gimbal Advantages

- Angular movement in more than one plane
- Eliminates pressure thrust forces
- No main anchor required
- Low forces on piping system
- Prevents torsion loads on rubber bellows
- Filled Arch Design Prevents Media Sediment Buildup



Thorburn Rubber Hinged Expansion Joint Demonstrating Deflection In one Plane



Thorburn Rubber Gimbal Expansion Joint Demonstrating Deflection In Multiple Planes

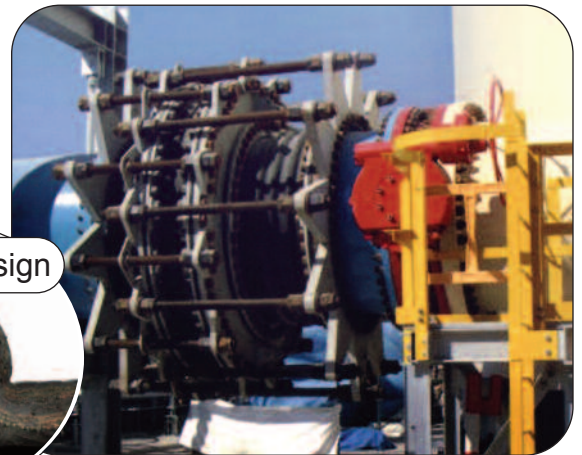
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42IRPB™ Inline Pressure Balanced Expansion Joints

Thorburn's 42IRPB™ is specifically designed for an in-line piping system requiring the elimination of pressure thrust and movement loads from the adjoining piping system or sensitive equipment. Thorburn's 42IRPB™ has a balancing bellows with an effective area twice as large as the line bellows. The inter-linking arrangement of the tie rods transfers and balances the pressure thrust loads. As the line bellows are compressed, the balancing bellows are extended an equal amount without volume change.



Filled Arch Design



42IRPB™ with exterior coating (to protect elastomer from severe ozone radiation) installed at Saudi Petroleum in the Kingdom of Saudi Arabia

Advantages

- Absorbs Pressure Thrust
- Eliminates Pressure Losses
- Super Abrasive and Erosion Resistance
- Freedom from Corrosion and Embrittlement
- Filled Arch Design Prevents Media Sediment Buildup

Flexible Piping System for Water Reclaim Barges



Water reclaim barge pump house in operation



Thorburn 60TMH™ Flexible Piping



Thorburn 42HPWH™ Hinged Assembly

Applications

- Thorburn's Rubber Hinge & Gimbal Expansion Joints absorb pressure thrust and accommodates angular motion.
- Thorburn's Rubber Pressure Balanced Expansion Joints neutralizes pressure thrusts & accommodates axial and lateral movement
- Thorburn's 60TMH™ Hose assembly is designed to accommodate the tide levels and wave movement.

