PRODUCT GUIDE

NAISMITH

POWER TRANSMISSION - PNEUMATIC CYLINDERS

2001

NAISMITH

POWER TRANSMISSION - PNEUMATIC CYLINDERS

INDEX

PULLEYS, BELTS SPROCKETS & CHAINS

CLASSICAL TIMING PULLEY

Naismith Engineering is one of Australia's largest stockists of Classical timing pulleys. We also carry the rubber belts to suit from Gates. Pulleys are available in both pilot & taper bore. Plastic pulleys are available for both 'XL' & 'L'. Clamp plates are also available.

	Pitch	Widths
XL (Extra Light)	0.200" (1/5")	3/8"
L (Light)	0.375" (3/8")	½" & 1"
H (Heavy)	0.500" (1/2")	1", 1 1/2", 2" & 3"
XH (Extra Heavy)	0.875" (7/8")	2" & 3"

HTD (High Torque Drive)

The next step in high performance drives, HTD allows higher torque and speeds. We have a large range of pulleys. We also carry the rubber belts to suit from Gates. Pulleys are available in both pilot & taper bore. Clamp plates are also available.

Pitch	Widths	
3mm	15mm	Belts not yet available
5mm	15mm	Belts not yet available
8mm	20mm, 30mm, 50mm & 85mm	Belts available
14mm	40mm, 55mm, 85mm & 115mm	Belts available

POLY CHAIN G.T.

The latest in high performance belt drives, and can last up to 5 times longer than problem roller chain drives. Pulleys and belts are available.

Pitch	Widths
8mm	12mm, 21mm, 36mm & 62mm
14mm	20mm, 37mm, 68mm, 90mm & 125mm

METRIC TIMING PULLEYS & BELTS (T & AT)

T and AT are the European standard. Naismith Engineering stock a full range of pulleys and belts. The pulleys are all in Aluminium, and we stock the Megadyne range of belts. Clamp plates are also available.

	Pitch	Widths
T2.5	2.5mm	6mm
T5	5mm	10mm, 16mm & 25mm
T10	10mm	16mm, 25mm, 32mm & 50mm
AT5	5mm	10mm, 16mm & 25mm
AT10	10mm	16mm, 25mm, 32mm & 50mm

VEE PULLEYS & BELTS

Industry standard Vee pulleys are available in cast iron, taper bored.

Vee Pulley Stock Range Includes.
SPA 80mm - 500mm , 1 - 5 grooves
SPB 125mm - 1250mm , 2 - 8 grooves
SPC 200mm - 1250mm , 3 - 8 grooves
SPZ 56mm - 355mm , 1 - 4 grooves

Vee Belt Stock Range Includes.
A, B, C, D & M Section
SPA, SPB, SPC & SPZ Section

Also available is link type belting and round belting

SPROCKETS

Naismith Engineering stock a large range of sprockets, most have flame hardened teeth. Weld on hubs are also available from stock, so many non standard sprockets are easily made up.

Stock Range Includes.
B.S. Simplex & Plate Wheels 8mm, 3/8" up to 1 1/2”
B.S. Duplex 3/8" up to 1”
B.S. Triplex 3/8, 1/2" 3/4" & 1”
A.S.A. Simplex & Plate Wheels 1/4" up to 2 ½
B.S. Simplex Taper Bore 3/8" up to 1”
B.S. Duplex Taper Bore 3/8, 1/2" 3/4" & 1”
B.S. Triplex Taper Bore 3/4" & 1”

STANDARD ROLLER CHAIN

The E.K. standard roller chains are available in sizes ranging from ¼" to 2 ½" including those in conformity with BS (British Standards) and ANSI (American National Standard Institute). The following sizes are available in Simplex, Duplex & Triplex. Some sizes are available in 4 Strand, 5 Strand & 6 Strand.

Heavy duty roller chain is designed to provide greater impact resistance with link plates of increased thickness to standard roller chain.

B.S. British Standard

05B	8mm	**16B**	1“
06B	3/8“	**20B**	1 1/4“
08B	1/2“	**24B**	1 1/2“
10B	5/8“	**28B**	1 3/4“
12B	3/4“	**32B**	2“

A.S.A. American Standard

25	1/4“	**100**	1 1/4“
35	3/8“	**120**	1 1/2“
40	1/2“	**140**	1 3/4“
50	5/8“	**160**	2“
60	3/4“	**200**	2 1/2“
80	1“		

A.S.A. American Standard

50H-1	5/8“		
60H-1	3/4“	**60H-2**	3/4“
80H-1	1“	**80H-2**	1“
100H-1	1 1/4“	**100H-2**	1 1/4“
120H-1	1 1/2“		
140H-1	1 3/4“		

HI*POWER ROLLER CHAIN

D.I.D Hl*PWR roller chain is designed to provide higher tensile strength and better ability to withstand impact loading. The chain is recommended for slow to moderate speed drive and heavy loading conditions, but can also be used for high speed. Hi-Power chain has thicker side plates and through hardened pins.

A.S.A. American Standard	
60HK-1	3/4“
80HK-1	1“
100HK-1	1 1/4“
120HK-1	1 1/2“
140HK-1	1 3/4“
160HK-1	2“

DOUBLE PITCH CHAIN

Double pitch conveyor chain is a type of chain with its pitch double that of the standard type roller chain. Except for the linkplate, it incorporates the same round parts as the standard type roller chain. Hence it is lighter in weight and more economical than the standard type. The double pitch conveyor chain is available in two alternatives of standard roller type and large roller type. This allows compact conveyor layout by fitting suitable attachments according to the intended use.

Transmission Series		Conveyor Series Standard Roller		Conveyor Series Large Roller	
2040	1“	**C2040**	1“	**C2042**	1“
2050	1 1/4“	**C2050**	1 1/4“	**C2052**	1 1/4“
2060	1 1/2“	**C2060H**	1 1/2“	**C2062H**	1 1/2“
		C2080H	2“	**C2082H**	2“
		C2100H	2 1/2“	**C2102H**	2 1/2“
		C2120H	3“	**C2122H**	3“

HOLLOW PIN ROLLER CHAIN

This chain has hollow pins and the through hole of each pin can be used to accommodate various attachments. Hollow Pin chain is available in steel, Nickel Plated & Stainless Steel chain.

A.S.A. American Standard		Conveyor Series Standard Roller		Conveyor Series Large Roller	
40HP	1/2“	**C2040HP**	1“	**C2042HP**	1“
50HP	5/8“	**C2050HP**	1 1/4“	**C2052HP**	1 1/4“
60HP	3/4“	**C2060HP**	1 1/2“	**C2062HP**	1 1/2“
80HP	1“	**C2080HP**	2“	**C2082HP**	2“

LEAF CHAIN

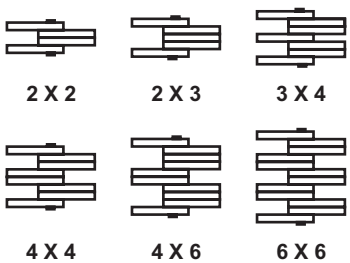
Leaf chain is a type of chain consisting solely of pins and linkplates assembled together. Hence it has improved tensile strength compared with roller chain and better suited for suspension and tension. D.I.D. leaf chains are in accordance with ANSI standard and are available in two alternatives of AL type and BL type.

AL Used primary for light duty and slow speed application where little importance to be attached to wear resistance.

BL Used for repetitive high impact loading application where importance is attached to wear resistance.

AL Series		BL Series	
AL4xx	1/2“	**BL4xx**	1/2“
AL5xx	5/8“	**BL5xx**	5/8“
AL6xx	3/4“	**BL6xx**	3/4“
AL8xx	1“	**BL8xx**	1“
AL10xx	1 1/4“	**BL10xx**	1 1/4“
AL12xx	1 1/2“	**BL12xx**	1 1/2“
AL14xx	1 3/4“	**BL14xx**	1 3/4“
AL16xx	2“	**BL16xx**	2“

xx = Lacing



NICKEL PLATED CHAIN

E.K. Rustless Chain is an outstanding corrosion resistant chain because its surface is nickel plated. Rustless chain without grease has less performance than LU chain (see below). However, the chain with grease shows good anti-corrosion performance. In a situation where chain is exposed to the possibility of hydrogen embrittlement caused by acid vapor or salty environment, nickel plating delays the corrosive effect on the chain.

B.S. British Standard		A.S.A. American Standard		A.S.A. American Standard		Conveyor Series Standard Roller		Conveyor Series Large Roller	
05BN	8mm	**25N**	1/4“	**60N**	3/4“	**C2040N**	1“	**C2042N**	1“
06BN	3/8“	**35N**	3/8“	**80N**	1“	**C2050N**	1 1/4“	**C2052N**	1 1/4“
08BN	1/2“	**40N**	1/2“	**100N**	1 1/4“	**C2060HN**	1 1/2“	**C2062HN**	1 1/2“
10BN	5/8“	**50N**	5/8“	**120N**	1 1/2“	**C2080HN**	2“	**C2082HN**	2“
12BN	3/4“								
16BN	1“								

STAINLESS STEEL ROLLER CHAIN

E.K. stainless steel chain SS type has the most superior performance resistance to corrosion and heat. All components are made of austenitic stainless steel. This is why the tensile strength of SS type is slightly less than 70% of standard (steel) roller chain strength, and the maximum allowable load is slightly greater than 10% of standard steel chain.

B.S. British Standard		A.S.A. American Standard		A.S.A. American Standard		Conveyor Series Standard Roller		Conveyor Series Large Roller	
05BSS	8mm	**25SS**	1/4“	**60SS**	3/4“	**C2040SS**	1“	**C2042SS**	1“
06BSS	3/8“	**35SS**	3/8“	**80SS**	1“	**C2050SS**	1 1/4“	**C2052SS**	1 1/4“
08BSS	1/2“	**40SS**	1/2“	**100SS**	1 1/4“	**C2060HSS**	1 1/2“	**C2062HSS**	1 1/2“
10BSS	5/8“	**50SS**	5/8“	**120SS**	1 1/2“	**C2080HSS**	2“	**C2082HSS**	2“
12BSS	3/4“								
16BSS	1“								

O-RING CHAIN

Grease is sealed with 0-Rings between pin and bushing. It can be used in a very wide range of applications from low speed to high speed and from light duty to heavy duty, ensuring longer life. Furthermore, it is durable to some extent even at high temperature, and a chain adopting heat resistant O-Rings has actually been used in a 200ºC oven. Since the pin length becomes longer by two O-rings, refer to the catalogue for dimensions.

B.S. British Standard		A.S.A. American Standard	
08BL	1/2“	**40L**	1/2“
10BL	5/8“	**50L**	5/8“
12BL	3/4“	**60L**	3/4“
16BL	1“	**80LD**	1“
		100LD	1 1/4“

SPECIAL LUBRICATION ROLLER CHAIN

‘UR’ CHAIN

Sintered bushing roller chain uses bushings made of sintering alloy steel powder. The porous spaces of the sintered bushings are impregnated with oil before hand, to increase the life of the chain. However, Sintered bushing roller chains are for low speed and light duty applications.

‘LU’ CHAIN

A film of fine crystalite absorbs oil well. This chain is most suitable where splattering of oil and grease must be avoided. LU chain coated with grease improves wear and resistance to corrosion. Temperatures up to +120° C.

A.S.A. American Standard	
25LU	1/4“
35LU	3/8“
40LU & UR	1/2“
41LU	1/2“
50LU & UR	5/8“
60LU & UR	3/4“
80LU & UR	1“
100LU	1 1/4“
120LU	1 1/2“

Conveyor Series Standard Roller		Conveyor Series Large Roller	
C2040LU & UR	1“	**C2042LU & UR**	1“
C2050LU & UR	1 1/4“	**C2052LU & UR**	1 1/4“
C2060LU & UR	1 1/2“	**C2062LU & UR**	1 1/2“
C2080UR	2“	**C2082UR**	2“

SHAFT COUPLINGS

‘L‘ TYPE - Lovejoy

The Jaw Type couplings from Lovejoy are offered in the industry's largest variety of stock bore/keyway combinations. These couplings require no lubrication and provide highly reliable service for light, medium and heavy duty electrical motor and internal combustion power transmission applications.

Other features and benefits include:

- Fail-safe - will still perform if elastomer fails.
- No metal to metal contact.
- Resistant to oil, dirt, sand, moisture and grease

‘AL‘ TYPE

The aluminum construction means this coupling is light weight with low overhung load and low inertia. The AL type also offers excellent resistance to atmospheric conditions, so it is perfect for corrosive environment applications.

‘LS‘ & ‘CS’ TYPE JAW IN-SHEAR - Lovejoy

Spider is non-fail-safe and thus acts as a fuse to prevent equipment damage in the event of torque overloads. It is radially removable, meaning that neither hub (or driver/driven equipment) has to be moved to make replacement of the spider. This saves time and money in maintenance costs.

The retaining ring which encloses the In-Shear Spider has small nubs which simply slide into J-shaped grooves in the perimeter of the spider and twist-lock into place. It will not work its way loose and since there are no fasteners involved, maintenance/removal of the spider takes only a few minutes.

It uses the standard L-Type and C-Type Jaw Coupling hubs. Existing applications using in-compression spiders can simply be retrofitted with the new In-Shear Spider if the features are beneficial. The Jaw In-Shear Spider is made from Urethane. The In-Shear coupling has different power ratings to the standard jaw coupling and also uses different service factors.

‘RRS‘ TYPE - Lovejoy

The RRS coupling is based on the standard Lovejoy Jaw type coupling. The center "dropout" section of this coupling provides proper shaft separation while also allowing easy elastomer installation without disturbing the hubs or requiring realignment of shafts. Designed for the pump industry, it accommodates Metric standard pump/motor shaft separations. The drop out spacer is made of glass reinforced plastic, cast iron or aluminum.

COUPLINGS

‘C’ TYPE - Lovejoy

These couplings provide standard shaft-to-shaft connection for medium duty range applications. The standard C coupling hub is made of cast iron. The coupling uses a set of SXB cushions instead of a spider. The load cushions are held in place radially by a steel collar which is attached to one of the hubs. The cushion design has the same engineering purpose as the spider design but is more effective in the medium duty applications that ‘C’ Type couplings address.

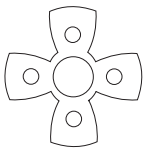
CURVED JAW - Lovejoy

This design is the European standard jaw coupling, as well as in many other parts of the world. When equipment from overseas is used in Australia, Naismith Engineering can provide the replacement flexible couplings and elastomers.
These couplings require no lubrication and provide highly reliable service for light, medium and heavy duty electrical motor and internal combustion power transmission applications.

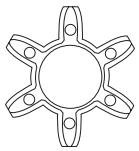
Other features and benefits include:

- Fail-safe - will still perform if elastomer fails.
- No metal to metal contact.
- Resistant to oil, dirt, sand, moisture and grease

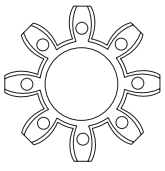
CURVED JAW NO BACKLASH ELEMENTS - Lovejoy



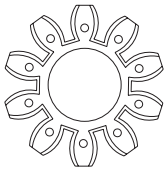
CJ14



CJ19/24



CJ24/32 - 65/75



CJ75/90 - 125/145

No Backlash elements are available in 92 shore (yellow colour) & 98 shore (red colour). They are no back lash for up to 10% of the torque rating of the spider, over which the spider is low backlash. The NBL spider still provides the dampening characteristic of an elestomer, as well as misalignment flexibility not found in many all-metal couplings.

S-FLEX - Lovejoy

The simple design of the S-Flex coupling ensures ease of assembly and reliable performance. No special tools are needed for installation or removal. S-flex coupling can be used in a wide variety of applications. The S-Flex coupling is comprised of three parts:- two flanges with internal teeth engage an elastomeric flexible sleeve with external teeth. It is available in pilot bore, taper bore and also as a spacer coupling.

Other features and benefits include:

- No metal to metal contact.
- Resistant to oil, dirt, sand, moisture and grease.
- Dampens vibrations and controls shock.
- Torsionally soft.

BEAM - Lovejoy

The Lovejoy Beam miniature coupling is formed from one piece of aluminum rod, resulting in a truly flexible coupling that transmits torque through the flexure while accommodating angular, parallel and axial misalignment.

Other features and benefits include:

•High temperature applications, up to 93ºC
•Zero backlash.
•Low reactionary loads on bearings.
•Good chemical resistance.
•Lightweight.

MINI SOFT - Lovejoy

The Mini Soft miniature coupling from Lovejoy provides protection from misalignment, vibration and shock loads. The simple design of the coupling ensures ease of assembly, installation and reliable performance. No special tools are needed for installation or removal. No lubrication is needed and once installed and aligned correctly, no maintenance is required.

Other features and benefits include:

• Multiple tooth contact, low load per tooth.
• Good axial freedom.
• Good dampening capacity.
• Good torsional stiffness.
• High speed capability.

OLDHAM - Lovejoy

The Lovejoy Oldham coupling is a precision engineered, torsionally stiff, three part coupling suitable for a great many applications ranging from incremental control of fluid valves to highly dynamic drives in a closed loop servo system. It accommodates misalignment mechanically through a floating disc that engages tenons machined out of the hubs. Under severe overload the element will break cleanly, and act as a mechanical fuse to protect equipment.

Other features and benefits include:

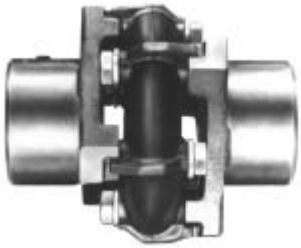
• Positive engagement.
• Good parallel misalignment capacity.
• Vibration damping ability
• Easy to install

SAGA - Lovejoy

Saga is a general purpose torsionally soft coupling with high tolerance to all forms of misalignment. The rubber between each apex is precompressed, so it is much more durable to the stresses arising from the various forms of misalignment and torsional vibrations.

Other features and benefits include:

• No end thrust in misalignment position.
• Absorbs misalignment and shock.
• No axial reaction force.



UNIVERSAL JOINT - Lovejoy

‘D‘ TYPE

A standard industrial type universal joint with pin and block design, the ‘D’ type is ideal for applications with up to 25° angular misalignment and speeds up to 1750 RPM. It is available unassembled with no bore, or assembled with a pilot bore. Boot retaining grooves are standard.

‘HD’ TYPE

The ‘HD’ Type is a high quality universal joint made to exacting tolerances, perfect for your toughest high angle, high RPM applications. Precision machining, hardened yokes and matched fitting of all components means that it normally provides at least twice the life of a standard industrial type universal joint. It is available unassembled with no bore, or assembled with a pilot bore. Boot retaining grooves are standard.

UNIVERSAL JOINT - Lovejoy

NEEDLE BEARING TYPE

Designed with high quality, pre-lubricated and sealed needle bearings, this universal joint provides the reliability necessary for speeds up to 6000 RPM, and operating angles up to 25°

Needle bearing universal joints also ensure the precision required for robotics, instrumentation, control equipment, and many other demanding applications. It is available assembled with both no bore or with a pilot bore. Boot retaining grooves are standard.

UNIVERSAL JOINT - Lovejoy

STAINLESS STEEL

‘D’ Type universal joints are available in stainless steel. For use when contact with corrosive chemicals, exposure to corrosive atmosphere , or sanitation requirements are a factor. It is available unassembled with no bore, or assembled with a pilot bore. Boot retaining grooves are standard.

UNIVERSAL JOINT - Lovejoy

‘LO-J‘ TYPE

These economical universal joints have an offset pin design. They are ideal for use on hand operated, low torque drives such as remote control linkages, awning devices, and much more. Capable of operating angles up to 45°.

DELTA FLEX - Lovejoy

The unique design, misalignment capability and simple installation, make Deltaflex easily adaptable to special applications. This is an all metal coupling (also available in stainless steel). High misalignment capability means that there is less reactionary load on the rest of the machine.

Other features and benefits include:

- Operates smoothly when misaligned.
- No lubrication.
- No backlash.
- Many standard coupling configurations for application versatility.

SIER-BATH GEAR 'C' & 'CFR' - Lovejoy

'C' TYPE (FLEX - FLEX)

The basis for all types of Lovejoy Sier-Bath continuous sleeve flexible gear couplings. suitable for most applications. Gear teeth are precision cut, 20° pressure angle with minimum backlash, and are smaller for even distribution of load, greater capacity and longer life.

'CFR' TYPE (FLEX - RIGID)

The flex - rigid gear coupling consists of a flexible hub and a rigid hub with a single sleeve. The flexible hub is a standard hub from a flex-flex coupling. The rigid hub uses a splined type hub. The Flex - Rigid coupling accommodates angular misalignment only and does not allow for parallel misalignment.

SIER-BATH GEAR 'F' & 'FFR' - Lovejoy

'F' TYPE (FLEX - FLEX)

Double engagement provides standard engagement for parallel misalignment, angular misalignment and end float with the ability to accommodate close coupled application requirements.

'FFR' TYPE (FLEX - RIGID)

Single engagement accommodates angular misalignment only and does not allow for parallel misalignment. This design consists of a flexible and rigid half, most commonly used in floating shaft applications to solve remote drive and excessive misalignment problems.

GRID - Lovejoy

The Lovejoy Grid Type flexible grid coupling reduces vibration by as much as 30%, and cushions shock loads to safeguard your driving and driven equipment. The flexible nature of the spring like grid absorbs impact energy by spreading it out over time, thus reducing the magnitude of the peak loads. This is possible because of the progressive contact that occurs between the curved profile of the hub teeth and the flexible grid. Grid couplings are designed for versatility. Common hubs and grids are used within a given size range for both horizontal and vertical split cover models. Grid installation and replacement is a 'snap', making maintenance very easy.

COUPLINGS

CENTAFLEX ‘A’ - Centa

The ‘A‘ series coupling consists of two steel hubs and a pre-stressed polygon shaped rubber element with metal parts vulcanised. The high quality element, which is extremely flexible in any direction, can be used for almost any purpose. This coupling is available in many styles, see drawings.

Other features and benefits include:

- Simple, compact, smooth face design
- High performance, high speed range
- Good shock & vibration absorbing
- Requires no maintenance
- No axial reaction forces

CENTAFLEX ‘B’ - Centa

The ‘B‘ series coupling provides an economical flexible shaft coupling transmitting up to 1400Nm torque, a great all round coupling. The element is available in two designs, polyurethane (green) & hytrel (yellow).

Other features and benefits include:

- Compact, light, robust design
- Dampens vibrations & shocks
- Compensates for axial, radial and angular misalignment.

CENTAFLEX ‘H’ - Centa

The ‘H‘ series coupling is a torsionally stiff design that is the perfect solution to problems associated with Diesel-Hydraulic couplings. The hub and flange is the same as the 'A' series Centaflex coupling.

Other features and benefits include:

- High speed
- Extremely high thermal stability -50 to +150C
- Oil resistant

CENTAFLEX ‘D’ - Centa

The ‘D‘ series is a very reliable, well-proven coupling for generator sets, centrifugal pump sets and other similar drives. This range was purposely designed for Diesel driven generator and similar drives, and the wide range of flanges available will allow the coupling to be mounted directly on to most engine flywheels. The 'D‘ series couplings comprise six design sizes for nominal torques from 250Nm to 20,000Nm. This range will in practice cater for all diesel engines from 3 cylinders upwards to include ratings up to 2,500kW at 1500 RPM.

CENTAFLEX ‘E’ - Centa

The ‘E‘ series coupling is very similar to the 'D' series but has been designed to be mounted shaft to shaft on electric motor applications.

Other features and benefits include:

- Simple, rubust, safe in operation, compact, fail safe
- Damps vibration and shock loads
- Accepts axial, angular & radial misalignment.

COMPOSITE DISC - Zero-Max

The Zero-Max CD coupling is a unique hybrid coupling, combining the best features found in both steel and elastomeric couplings. Through its new open arm disc design and use of rugged composite materials, the coupling offers the high misalignment capacity found in many elastomeric couplings, but with higher torsional stiffness. Compared to steel disc couplings, these couplings offer superior damping and isolation shock and vibrational loads, including elimination of fretting corrosion. Double Flex & Spacer couplings are also available.

CONTROL FLEX - Zero-Max

The Schmidt Control-Flex coupling was developed to satisfy the higher performance requirements of today's modern power transmission drives. To meet this goal, Schmidt Coupling engineered the unique Control-Flex disc which is based on a parallel linkage system.

Unlike elastomeric couplings, the Control-Flex disc allows parallel, angular and axial misalignment, while offering higher torque rigidity and maintaining constant transmission of torque and angular velocity.

TORQ TENDER - Zero-Max

Torq-Tenders are positive drive couplings which provide accurate overload protection in many mechanical power transmission systems. When a jam-up or excess overload occurs, Torq-Tenders disengage motor drives. Their effective, versatile design, protect your drive train, motor, and entire system. When load exceeds the rating determined by precision tempered torque springs, the unit's drive key pivots out of a slot to disengage the coupling. Once the overload is removed and speed reduced, the Torq-Tender resets itself automatically. All models are available with actuating pins or actuating disc, which will automatically signal an overload warning or shut the machine systems down entirely.

SCHMIDT L100, L200 & L300 COUPLING - Zero-Max

Only the Schmidt Offset Coupling, which requires a minimum offset, offers so much flexibility in shaft displacement while maintaining undisturbed power transmission at constant angular velocity. The coupling does not add secondary forces to the drive. It also will not transmit radial vibration between the drive and the driven shafts. It is a dynamically clean drive which will help provide a smooth flow of power for maximum product quality, and, unlike universal joints, there is no performance loss by increasing shaft offset.

Standard Schmidt Offset Couplings are available for parallel shaft displacement from a minimum of 4 to 440 mm and torque capacities from 6.2 to 51864 Nm. Special coupling sizes can be manufactured for any specific customer requirement. The L100 series couplings will handle parallel shaft displacement from a minimum of 4 mm to a maximum linear shaft displacement of 77 mm with torque ratings from 6.2 to 146.8 Nm and shaft speeds up to 4000 RPM. The L100 series is especially suitable for applications in business machines, optical, electronic equipment and robotics.

The L200 and L300 series couplings are capable of handling parallel shaft displacement from a minimum of 11 mm to a maximum linear shaft displacement of 440 mm with torque ratings from 71.9 to 51864 Nm and shaft speeds up to 2500 RPM. The L200 and L300 series are equipped with caged type needle bearings. The shafts are hardened and serve as the inner race of the needle bearings. The coupling can be mounted on shaft hubs or directly to existing flanges. This mounting technique permits installation of the offset coupling without any need to move either of the shafts being coupled.

The Schmidt Offset Coupling has a slight built-in axial freedom to compensate for thermal shaft expansion and assembly tolerances. The maximum angular shaft misalignment should be kept under one-half (%) degree.

SCHMIDT L400 COUPLING - Zero-Max

Schmidt Inline Couplings are of the torque-rigid type, designed with two pairs of parallel links installed 90 degrees out of phase with each other. This patented arrangement allows for the precise transmission of torque and constant angular velocity between shafts with relatively large parallel misalignments. The coupling utilizes needle bearings which can be preloaded for "zero" backlash conditions. Typical applications which benefit from the high accuracy provided by Schmidt Inline Couplings are feeders, embossers, compactors, printing presses and many others. Schmidt Inline Couplings are available for a torque range from 56 to 2824 Nm. Couplings for higher torque requirements are made available on special order.

SCHMIDT L500 COUPLING - Zero-Max

Schmidt 5-D Couplings were developed to fill a gap in the family of torque-rigid couplings. Most couplings in this family are designed to accommodate either axial, angular, or parallel shaft displacements only. For some applications, however, the operational conditions require all possible shaft misalignments. If these shaft misalignments exceed the limit of the selected coupling capacity, excess sideloads are introduced into the equipment which can cause vibrations, life reduction or failure of vital machine components such as bearings, motors, etc. The 5-D Couplings, are a modification of the Schmidt Inline Coupling, designed to accommodate all 5 degrees of shaft displacements. This patented coupling allows easy adjustment to any possible misaligned shaft position without imposing heavy sideloads on shafts, bearings or other machine equipment. Schmidt 5-D Couplings offer large shaft misalignment capabilities and constant angular velocity. The acting forces within the coupling can be precisely calculated, assuring a sound coupling design which is especially important for heavy-duty applications.

UNIVERSAL JOINT - Sit

Standard Type

The SIT universal joint is a very versatile universal joint with a maximum speed of 1000RPM and a maximum angle 45º with the E type and 90º with the ED type.

Needle Bearing Type

The Sit Needle Bearing universal joint is a very versatile universal joint with a maximum speed of 4000RPM and a maximum angle 45º with the H type and 90º with the HD type.

SITEX - Sit

The Sitex coupling is a gear coupling that uses two steel hubs and a superpolyamide resin sleeve. The combination of steel hubs with polyamide sleeve makes the coupling maintenance and lubrication free. Sitex couplings match the Industry Standard so they are interchangeable with many other brands.

JUBOFLEX - Sit

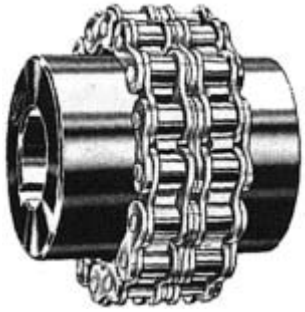
The Juboflex coupling consists of two steel hubs and a precompressed natural rubber element. The four smaller sizes come to suit taper bushes and the other four are pilot bore. The coupling has excellent damping properties and can take high misalignment.

BOLT COUPLING - Sit

The bolt coupling is a rigid coupling. It is made of two cast iron halves, which are bolted together. The coupling is maintenance and lubrication free, and its construction prevents fretting corrosion and allows for easy installation and removal. The bolt coupling can be used with or without keyways.

COUPLING

CHAIN COUPLING



Roller chain couplings have a torque capacity in excess of the torque normally transmitted by shafting which falls within the coupling bore range. Select the smallest coupling which will accommodate both shafts. For reversing operation, shock or pulsating loads, or other severe operating conditions, select the next larger coupling. A cover should be used to assure maximum service life, particularly if the coupling operates at high speeds or under moist or abrasive conditions. For proper lubrication, fill the space between the cover and the coupling with soft to medium consistency bearing grease.

BAUMANN

Standard

The principal feature of the Baumann Flex Coupling is the multi-layer and multi-coil spring assembly, which is brazed firmly to the end pieces designed either as collars, flanges or hubs. The coupling serves primarily to take up inaccuracies of alignment between two rotating shafts; it provides torsional flexibility in the coupling of such shafts and damps vibration. Its effectiveness is largely independent of the direction of rotation, as in one direction the outer and middle counter-coiled spring layers work together to transmit the load, while in the other direction, the middle and inner layers come into operation.

BAUMANN

LM

The LM type couplings have a stainless steel spring and two light alloy hubs which are bored the same at each end. Maximum torque can only be achieved with correctly aligned shafts. The maximum shaft misalignment is 8°angular and 2mm parallel.

ZG

The ZG type coupling comprises a nickel plated steel spring and two cast zinc push-on hubs which are available with metric bores. The maximum shaft misalignment is 5°angular and 1mm parallel.

BLS

The BLS type coupling is constructed entirely of stainless steel allowing for corrosive environments and ambient temperatures up to 500°C. The maximum shaft misalignment is 1.5°angular and 0.1mm parallel on the size 15 & 3°angular and 0.2mm parallel on the size 23.

CHP

The CHP type coupling consists of a synthetic rubber bellows and two alloy hubs. The coupling is backlash free and torsionally rigid. The maximum shaft misalignment is 5°angular and 0.25mm parallel.

SERVOFLEX SFC - Miki Pulley

ServoClass Couplings are specifically designed to meet the precision positioning requirements and high reverse-load characteristics common to many of today's AC and DC servomotor applications.
SFC Couplings feature zero-backlash flexible metal discs and zero-backlash "keyless" clamp-type mounting hubs. This high-performance coupling has high torsional stiffness and low inertia to avoid system resonance. Yet it is remarkably flexible as a result of its double-flex-disc design, which provides exceptional misalignment capacity. This flexibility reduces reaction loads, thereby extending the operating life of the connected components while providing smoother system performance.

SERVOFLEX SFS - Miki Pulley

The SFS ServoClass Couplings are also designed to meet the precision positioning requirements and high reverse-load characteristics. With higher torque ratings this coupling suits larger applications.
ServoClass Couplings feature zero-backlash flexible metal discs. This high-performance coupling has high torsional stiffness and low inertia to avoid system resonance. Yet it is remarkably flexible as a result of its double-flex-disc design, which provides exceptional misalignment capacity. Available in single ‘S’, double ‘W’ and spacer ’G’ type.

TYRE COUPLING

The Tyre coupling is primarily designed to allow for misalignment both angular and parallel and compensates for end float. Torsional vibration is reduced and shock loads minimized by the flexing body. The coupling has been successfully subjected, under normal circumstances, to angular misalignment up to 4º, parallel misalignment up to 3mm and end float up to 8mm. The design of the coupling, having a flexing member with remarkable durability, suppresses the initial shock load and eliminates to a marked degree the stresses common to power driven machinery.

VARIABLE SPEED

ECONOLINE SERIES - Lovejoy

The Econoline Pulley series provides reliable variable speed service with a proven design at an economical cost. Consisting of a wide selection of models, the Econoline series is ideal for both adjustable and fixed center drives using classic "A" and "B" (or 4L and 5L) section drive belts. This series also offers: driven speed ratios from 1.6 to 1 up to 2.7 to 1 and ranges from 0.25kw to 3kw @ 1,425 RPM motor speed.

ALUMINOLINE SERIES - Lovejoy

Aluminoline variable speed pulleys offer the best possible belt alignment with the least amount of overhung load. Used with "A" and "B" drive belts, these pulleys not only have anodized aluminum flanges which provide quiet operation with minimum vibration, but are rated for 0.15kw through 1kw@ 1,425 RPM. These two-side moveable pulleys offer greater speed ratios (up to 2.75 to 1).

WB SERIES - Lovejoy

Pulleys in the WB series use wide variable speed belts for the most efficient transmission of torque through the widest possible speed range. This two- side moveable pulley series offers the best possible belt alignment when used with a grooved companion sheave. WB pulleys provide maximum service when lubricated through a convenient grease fitting and offer sizes ranging from 150mm to 330mm in diameter, with the largest model capable of 9kw @ 1,425RPM. All models greater than 0.75Kw feature durable cast iron flanges (Models 245 and 260 are made with lightweight, corrosion-resistant anodized aluminum flanges).

HI-RATIO - Lovejoy

In general, fixed center drives provide a greater total speed ratio than adjustable center drives. Traditional designs offer two pulleys of the same diameter, which means that a large portion of the driven speed range will be above motor speed. For those applications that require wide speed range and low driven speed, this has been a problem. Lovejoy's Hi-Ratio system solves this problem by mating smaller driver and larger driven pulleys to provide the unique combination of broader driven speed ranges and lower minimum driven speeds. Ranges from 0.2kw to 3kw @ 1,425 RPM motor speed.

HEXADRIVE - Lovejoy

Hexadrive pulleys are the most durable variable speed pulleys available. The hexagon-shaped center shaft efficiently transmits torque through the six hex flats for top performance and long life. The surface of the shaft is covered with a resilient elastomer, which means there is no metal-to-metal contact on any sliding surface and lubrication is not necessary. These pulleys are available in adjustable or fixed center drives and come in two styles: one-side moveable for V-Flat drives, and two-side moveable for V-V drives. Flanges are made of cast iron to provide a long-wearing belt contact area. These pulleys provide size ranges from 150mm up to 315mm diameter, and a maximum rating of 18kw @ 1,425RPM.

VAR - Sit

The variable speed pulley is a well established drive; designed to give continuous speed variation at a comparative low cost. The hub is made from induction hardened steel, hard chrome plated and ground to give uninterrupted slide fit with flanges. Keys are not used with this application. Moving flanges give a wide contact area therefore eliminating uneven belt pressure. The pulley flanges are coupled by means of nylon sleeve couplings to the outside of the flanges and by two flats machined on each end of the pulley hub. Two springs situated inside the nylon coupling give the desired pressure. The pulleys fit European standard variable speed belts.
There is provision for regreasing the pulley slide ways, although the grease chambers are pre-packed before leaving the factory.

STATIONARY ADJUSTABLE PULLEYS - Sit

Stationary Adjustable Pulleys are designed to allow adjustment of pitch diameters while stationary. They are suitable for Z - SPZ , A - SPA, B - SPB , C - SPC section V-belts. Both one groove and two grooves are constructed in high quality cast iron. One of the flanges has to be screwed on the threaded hub. The movable flange is provided with grub screws for fixing into required position. It is advisable to grease the hub threads periodically. For belt power ratings see our V-Belt catalogue.

VARIABLE SPEED

MODEL ‘P’ - Miki Pulley

This is a universally used type of pulley. It is mounted on a motor shaft, usually, and speed is changed by adjusting the distance between shafts. A standard V belt is used, with a tapered adapter for ease of mounting. An internal cam is used on model P. (For motors 0.2 kW to 2.2 kW, speed ratios to 1:1.5.)

MODEL ‘AP’ - Miki Pulley

Variable speed drive used in combination with Model P. Capable of changing drive speed without varying the distance between shafts. Employs a V belt, and an adapter for ease of mounting. (For motors 0.2 kW to 7.5 kW, speed ratios to 1:2)

MODEL ‘PL’ - Miki Pulley

It is mounted on a motor shaft, usually, and speed is changed by adjusting the distance between shafts. Speed change ratio is large though it uses a standard V belt. (For motors 0.1 kW to 1.5 kW, speed ratios to 1:2.4)

MODEL ‘PK’ - Miki Pulley

One-side movable type variable speed pulley for a wide belt which is attached on motor shaft to change drive speed by varying the distance between shafts. Wide speed change ratio and high transmission capacity. (For motors 0.4 kW to 8.5 kW speed ratios to l:3)

MODEL ‘AK and ’PE’ - Miki Pulley

Employs a wide variable speed belt. Non-lubrication type stepless variable speed drive capable of changing drive speed without varying the distance between shafts. (Can be used for various models of motor ranging 0.2 kW to 37 kW. A large speed change ratio of 1:4 can be obtained.) Variable speed pulley Model AK is manually adjustable provided with a hand wheel. Model PE, the driven pulley is spring loaded. Speed change can be made easily. Drive speed can be increased by turning the hand wheel counterclockwise and decreased by reversing it. Mount Model AK on motor shaft and Model PE on driven side.

MODEL ‘L’ - Miki Pulley

Intermediate wheel type stepless variable-speed drive with standard type V belt. Speed can be easily changed with lever. (For motors 0.1 kW to 2.2 kW. Speed ratios: 1:2 to 1:1.5)

MODEL ‘U’ - Miki Pulley

Intermediate wheel type stepless variable-speed drive with standard type V belt. Speed ratio is large and speed can be easily changed with handle. (For motors 0.4 kW to 2.2 kW. Speed ratios: 1:3 to 1:6)

VARIABLE SPEED BELTS - Lovejoy

Lovejoy variable speed belts are designed for long life, even tracking, smooth running, and efficient transmission of power through wide speed ranges. They are made of special synthetic compounds to provide maximum service in conditions where oil, heat (up to 93 degrees C), and static are present. Maximum recommended belt speed is 5,600 feet per minute.

Sizes Available

1422V	2926V
1922V	3230HV
2322V	4430V

VARIABLE SPEED

COMPANION SHEAVES - Lovejoy

Lovejoy companion sheaves are made of durable cast iron to assure best possible wear at the belt contact area. Grooved sheaves, for use with Variable Speed adjustable center drives, are machined to match the belt width and angle of standard variable speed belts for optimum efficiency. The spoked design provides strength and light weight. All companion sheaves are precision balanced for smooth running. The sheaves are bored to accept standard QD type tapered bushings (see page 24) for ease of installation, best possible shaft grip and removal from the shaft without damage to any of the parts.

MOTOR BASES - Lovejoy

It is necessary to change the distance between the motor and driven shaft in order to change speed with an adjustable center drive. The best way to do this is with an adjustable motor base. Lovejoy motor bases are designed to fit NEMA motor frames. Lovejoy offers four basic types of motor bases to satisfy requirements of space, convenience, interchange- ability, motor frame size, and economy.

MOTORBASE & SLIDE RAIL- Sit

MOTOR BASE

The "COMPATTA" and "VAREX" motor bases can be employed in various fields for complete satisfaction of the user. Very solid, long life and precision in performance, even in critical working conditions, are their main characteristics. The simple and functional design is suitable and reliable for every sort of application and allows quick tensioning adjustment avoiding modifications in the transmission components alignment. Sit motor bases are designed to fit Metric motor frames.

SLIDE RAIL

This new range of universal slide rails "LINEA" (made of galvanized steel) allows the mounting and adjustment of all types of electric motors in almost all positions. The very strong construction of the "LINEA" slide rails and the special fixing elements allow all types of combinations by the positioning of the adjusting threaded elements.

ZERO-MAX

Zero-Max is a mechanical adjustable speed drive. Five sizes provide constant torque of 1.3Nm to 22.5Nm (12“lbs to 200”lbs) throughout the speed range. The speed range is infinitely adjustable from 0 to 1/4 of the input speed under full rated load . This is generally stated as 0-320 RPM under full rated load assuming an input of 1440 RPM. For lower speed/higher torque applications, some Zero-Max Drives are available with in-line or right angle gearheads. They may be connected to any rotating power source up to 2000 RPM.

Speed adjustments are easily made by moving a lever control through an arc or turning the handwheel of a screw type control. In either case, precise speed control settings are possible.

LOCKING BUSHES

SIT-LOCK 1 (not self-centering) - Sit

Cone clamping unit consists of four pieces with two inside double-cone rings joined through a set of tightening screws. It is recommended for medium torques and although it is not self-centering, it can be easily assembled and disassembled. Available for shaft diameters from 20 to 200 mm.

SIT-LOCK 3 (self-centering) - Sit

Consists of two conical pieces and a spacer. It has minimum overall dimensions in virtue of the reduced thickness of the cones; so, SIT-LOCK' 3 is suitable for the applications where small hubs are requested. It is recommended for medium torques and is self-centering. SIT-LOCK' 3 guarantees a very precise axial positioning, as no axial displacement of the hub occurs during the assembly operation. Available for shaft diameters from 15 to 100 mm.

SIT-LOCK 4 (self-centering) - Sit

Consists of two biconic rings and two truncated cone rings. It is suitable for high torques and is self-centering. Ideal for conveyors and many other machine applications Available for shaft diameter from 45 to 200 mm.

LOCKING BUSHES

SIT-LOCK 5A (self-centering) - Sit

Consists of one inside and one outside cone ring, which are joined by a set of screws. It is suitable for high torques and is self-centering. Applications which require a very precise axial positioning are not recommended, owing to a small axial displacement of the hub during the assembly operation. Available for shaft diameters from 20 to 100 mm.

SIT-LOCK 7 (self-centering) - Sit

Consists of one inside and one outside cone ring joined together by means of a set of screws. The inner ring has a larger diameter flange which locates against the hub. SIT-LOCK 7 has a very small axial dimension and is self- centering. It is suitable for applications with medium torques, which need a very precise axial positioning. Available for shaft diameters from 20 to 100 mm.

TAPER LOCKING BUSHES

The Taper bush is designed to give rapid assembly and dismantling of the pulley and other transmission equipment with no special tool requirement except hexagonal key. The large range of finished bores available ensures that an immediate assembly can be made thus avoiding costly factory down-time. The bushes are machined with keyways in accordance with British Standard specifications. This is in addition to clamping screws which, in many cases, are sufficient to meet the required torque. Fastening by taper bushes allows the removal of any clearance between hub and bore so that fretting corrosion is eliminated.

Sizes Available

1008	1610	3020	4545
1108	1615	3030	5050
1210	2012	3535	
1215	2517	4040	

QD TYPE BUSH - Lovejoy

The taper-bored "QD" item easily fits over the tapered bush and tightening of the cap screws produces a tight fit on the shaft. The bush is easily removed from the hub by using the pull-up bolts as jack screws. Sizes available include QH, JA, SH, SDS, SD, SK, SF, E, F. All bushes are available in pilot bore, and can be re bored to suit the shaft requirements. All bushes "JA" through "F" are drilled for Reverse Mounting.

BRAKES & CLUTCHES

BRAKES - Tol-O-Matic

Tol-O-Matic offers both industrial and vehicular lines of Caliper Disc Brakes with over 400 models to choose from. Caliper Disc Brake products include Pneumatic Brakes, Hydraulic Brakes, Hydraulic/Mechanical Brakes, Mechanical Brakes & Spring Applied Brakes. Disc are also available.
Tol-O-Matic caliper disc brakes put a stop to your problems, providing maximum performance and product longevity.
The Tol-O-Matic vehicular brake line includes hydraulic, dual function, mechanical or spring applied caliper models that will fill a wide variety of vehicular and off-highway applications.

CLUTCHES - Tol-O-Matic

Tol-O-Matic offers two different types of clutches.

ADAM CLUTCH

The Adam Clutch has a higher heat dissipation, greater torque and better response times than any other clutch in its class, and may very well be the most versatile clutch available on the market today. The parallel disc-plate design provides fast starts (but soft where needed) while the finned, cast-iron plate on 400, 600 and 800 Series models quickly dissipates heat generated Unlike other disc-plate clutches in high cyclic applications, the Adam clutch also includes innovative servicing features designed to save you time and effort. Features like quick-change non-asbestos friction material for fast, easy replacement without dismounting and dismantling the clutch.

DISC CONE CLUTCH

The Disc-Cone Clutch, developed by Tol-O-Matic engineers more than 20 years ago, is the only cone clutch in the industry. In this unique design, the cone, attached to the pilot, engages a cup member for immediate, positive engagement with no slippage. The 1300 series offers high torque in a space saving design. The 1200 series has a cast iron, heat dissipating finned plate capacity which gives it almost 10 times the heat dissipation of the comparable 1300 series model.

BRAKE Type 111 & 112 - Miki Pulley

Electromagnetic brake, light weight, space-saving, combination of thin stator and variety of armature assemblies incorporating patented brake armature. Operates on 24v D.C. Used for Braking/holding, high frequency operation, positioning, inching, cushioned stop, etc.

CLUTCH Type 101 & 102 - Miki Pulley

Electromagnetic clutch, thin and space-saving, combining flange-mounted stator and variety of armature assemblies. Operates on 24v D.C. Used for Coupling/releasing, speed change, forward/ reverse operation, high frequency operation, indexing, inching, cushioned start/stop, over-load protection, etc.

CLUTCH Type CS - Miki Pulley

Electromagnetic clutch, easy-to-install, combination of bearing-mounted stator and variety of armature assemblies. Operates on 24v D.C. Used for Coupling/releasing, speed change, forward/ reverse operation, high frequency operation, indexing, inching, cushioned start, overload protection, etc.

CLUTCH/BRAKE - Miki Pulley

Type 125

Combination electromagnetic clutch / brake and split-shaft mechanism enclosed in light alloy housing. Operates on 24v D.C. Used for starting/stopping, high frequency operation, positioning/indexing, inching, etc.

Type 121

Combination open type electromagnetic clutch and brake mounted on through-shaft. Operates on 24v D.C. Used for starting/stopping, high frequency operation, positioning, indexing, inching, etc.

GEARBOXES &TIMING DEVICES

HOT-SHIFT - Snow Nabstedt

These single speed transmissions consist of a planetary set up driven by a sun gear. There are two reaction clutch bands within the housings. When either one is clamped down by the force of the cam, forward or reverse will then be engaged. The unique dual clutch design allows for instant shift on the fly direction control from forward to reverse, even under a full load, since the input and output shafts are always in constant mesh with each other. The rugged design provides for a prolonged life even in the harshest applications.

FLOAT-A-SHAFT - Tol-O-Matic

Tol-O-Matic's Float-A-Shaft "floats" on rotating shafts. No other design has the versatility, durability, safety, or the ease of operation as the Float-A-Shaft. Float-A-Shaft is a universal right angle gear drive coupling. It consists of two 45° helical gears that mesh at right angles, designed to turn power around any corner. Float-A-Shaft can be operated in either direction and can slide axially along the drive or driven shaft. A lightweight aluminum housing encloses the gears, serving as a structural support and a lubricant reservoir. The gears mount directly on the shafts through keyways in the gears and shafts. These rugged and durable hardened helical gears have been field-proven for over 35 years, assuring dependable operation. Float-A-Shaft's unique floating design maintains perfect alignment. It also eliminates dangerous chain sprocket drives and the additional adjustments required for chain drive applications. Float-A-Shafts are available in either a low torque journal bearing series or a high torque sealed roller bearing series. Maximum speed on these units is 500RPM

WINSMITH

Winsmith specialize in meeting your power transmission needs - whether it's a custom engineered solution or one of our 13 million standard units, our engineering team can respond quickly with a successful solution. Since 1901 Winsmith has been manufacturing quality speed reducers and has built a reputation for engineering excellence with a commitment to quality, service, and technological innovation. Winsmith offer the broadest line of standard and modified worm gear speed reducers available to industry, as well as other standard and custom gear drive products. The full line of products manufactured by Winsmith includes: single enveloping worm gears, double enveloping worm gears, planetary gearing, helical gears, and spur gears, all in a wide range of standard and custom engineered products.

GEARBOXES & TIMING DEVICES

CROWN GEAR DRIVES - Zero-Max

Crown right angle gear drives are compact, reliable spiral bevel gear drives designed for a dependable, economical transfer of speed or power.
These drives are constructed of high quality materials to help ensure maximum service life with a minimum of maintenance. They are compact and sealed from outside contaminants to provide smooth, quiet operation, even in harsh industrial environments.Crown right angle gear drives are available in numerous standard models which include two and three-way versions and in 1:1 and 2:1 speed ratios. Standard Crown models are designed to meet a wide range of torque and shaft speed requirements.
Special units can be designed to your specifications with shaft extensions, special machining of shafts or case modifications.

HARMONIC DIFFERENTIALS - Candy Controls

The Candy Controls Harmonic Drive HDD & HDDX Series Differentials are infinitely adjustable in either direction, while running, and use the familiar Harmonic Drive components. Contained in a lightweight aluminum housing with corrosion resistant stainless steel shafts, the HDD/HDDX is ideal for directly mounting to the end of a roll shaft to provide static or dynamic phase or speed adjustment.

DIFFERENTIALS - Candy Controls

The Candy Differential is a precision timing mechanism used to advance or retard timing of mechanical actions. Installed in the drive train of the component to be controlled, these timing differentials may be manually or motor adjusted while running or stopped.

- Infinitely Adjustable
- Rotary Positioners
- Adjustable while running or stopped
- 1 to 1 ratio input to output

POSITIONER - Candy Controls

The Candy Positioner, POSI series, is a phase shifting mechanism used to accurately adjust and "fine tune" the timing relationship of machine actions. In normal operation, the Positioner is a 1:1 phase transmission with input and output shafts rotating in the same direction. When the control shaft is rotated, a differential action occurs between the input and output shafts. This adjustment may occur while the machine is in the static position or while running. By providing "on the fly control", the Positioner eliminates costly downtime associated with production set-ups and changeovers.

CANDY SWITCH - Candy Controls

The Candy Switch is used by thousands of equipment manufacturers and users world-wide to control circuits during a machine cycle. This Candy Switch can vary the "on-off" time cycle as well as the length of "on" dwell time. Each electrically controlled machine component can be synchronized to the demands of the parent machine without specifically designed cams or expensive electronic devices. Under average conditions, the Candy Switch mechanism should operate satisfactorily over 100 million cycles at 100 RPM. In most individual applications, it is inherently more accurate than the machine driving it. Adjustable while running.

TIMING HUB - Candy Controls

The Candy Timing Hub is the low-cost positioner used to positively lock gears, sprockets, cams and levers to shafts while still providing full adjustable timing control. This precision timing hub allows the use of low-cost plate sprockets and hubless gears, and eliminates the cost of machining special slots or clamps often used for timing adjustment. These savings and the low-cost of the hub, clearly show that the Candy Timing Hub is the most economical way to provide positive and accurate positioning control.

PHASING HUB - Candy Controls

The Phasing Hub is a static phase adjusting coupling designed for precise angular displacements. When in motion, the Phasing Hub operates as a rigid 1:1 shaft coupling. Phase change of the coupling and connected shafts is accomplished with the drive stopped. By manually turning the Adjusting Ring, the Phasing hub becomes a phase changing device providing infinitely variable and stepless phase correction in either direction. 1 rotation of the adjusting ring results in 3.6° of adjustment.

LINEAR ACTUATORS

CABLE CYLINDERS - Tol-O-Matic

Introduced over 40 years ago as the first rodless cylinder, the Tol-O-Matic cable cylinder provides reliable linear motion with space and cost-savings features. Its simple yet efficient design, solves a wide variety of application requirements. Unlike rod cylinders, the cable cylinder's stroke is contained within the cylinder itself and that can be a big advantage when space limitations are a consideration. The cable cylinder also allows equal force to be applied in both directions. Cables (fastened to both ends of the piston) pass through gland seals at the ends of the cylinder tube, go around pulleys and are then joined by a load bracket or clevis. The cables can be cut different lengths, threaded through a machine or wrapped around a drum to fill a wide variety of rotary and/or linear motion requirements. First in the industry to offer an automatic tensioning cylinder and combine it with a caliper disc brake for mid-stroke positioning, Tol-O-Matic also offers reed switch options on most cylinder models.

BAND CYLINDERS - Tol-O-Matic

With its introduction of the cable cylinder in 1955, Tol-O-Matic became the first manufacturer to introduce rodless cylinders into the U.S. marketplace. Today, Tol-O-Matic is the largest U.S. manufacturer of cable and band-type cylinders and the only manufacturer to offer all three types of band cylinder BC2 Series™, BC3 Series™ & BC4 Series™. All Tol-O-Matic rodless actuators are hardworking, space-saving designs that offer cost-effective automation solutions for unlimited application requirements. The expanded range of BC4™ cylinders now go to 4“ bores with thrust up to 540kg.

ROD CYLINDERS - Tol-O-Matic

Tol-O-Matic's full line of prepackaged low-profile rod cylinder slides provides high performance in cost-effective packages. This line covers the broadest offering in the industry providing low cost, with the ability to incorporate several actuators using adapter plates for X-Y or X-Y-Z applications. Flexible mounting features on each style allow easy integration into new or existing applications. Four different type of rod cylinder slides are available H-Block™ Slides, U-Block™ Slides, Channel-Block™ Slides, Power-Block™ Slides & Power-Block2™Slides, ranging from 9/16" to 3-1/4" bore sizes.

SCREW DRIVE/BELT DRIVE ACTUATORS - Tol-O-Matic

Axidyne® products provide precise speed control, accurate and repeatable positioning, programmable motion control for increased flexibility, and can be used in applications where air is not readily available. Whether you select a comprehensive motion system or individual components to enhance an existing system, Axidyne® products provide high function and a cost competitive price.

The range includes
BCS Screw-Drive Actuators (Cylinder-Style),
SLS Screw-Drive Actuators (Slide-Style),
B3B Belt-Drive Actuators,
B3S Series Screw-Drive Actuators (Cylinder Style),
RSA/RSM Rod Screw Actuators,
Stepper Control Systems & Dc Control Systems

ROH'LIX - Zero-Max

The Roh'lix Linear Actuator is a device that converts rotary motion into linear motion. The Roh'lix uses rolling element ball bearings that trace a helix pattern along the shaft, which produces a Rolling Helix, or Roh'lix for short. Available sizes have thrust capacities ranging from 67 to 889 Newtons and 15 to 200 lbs, shaft diameters ranging from 8mm to 50 mm and 3/8 to 2 inches, and leads ranging from 0.625mm to 150mm and 0.025“ to 6.00“.

The Roh'lix Linear Actuator consists of six pre-loaded bearings that contact the shaft at an angle. When the shaft is rotated, the bearings trace out an imaginary screw thread, causing the Roh'lix to travel linearly along the shaft.
The thrust of the Roh'lix is established by spring force between the two block halves. The thrust force is adjusted by the thrust adjustment screws on the top of the block, allowing the thrust setting to be fine-tuned to individual applications.

NAISMITH

POWER TRANSMISSION - PNEUMATIC CYLINDERS

2001

Naismith Eng & Mfg Co Pty.Ltd
A.C.N. 004 284 388

149 Heidelberg Rd
Northcote, Victoria
Australia, 3070

Ph (03) 9489-9811
Fax (03) 9482-1474

www.naismith.com.au
marketing@naismith.com.au