

INDUSTRIAL COMPONENT

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Central Locking System

Description

The Central Locking System provides locking/unlocking of the entire vehicle from one central exterior point.

A popular international concept, Central Locking System - manual and keyless (remote) versions are introduced in India by NTTFIL.

It locks all doors automatically when the driver's door or the front passenger side door is locked from inside or outside.

Precisely timed motor control using micro-motors, PCB mounted relays in the control module and precision plastic gears encased in engineering-plastic housing contribute to ensure reliability.

Every CLS passes through stringent in-process quality checks.

Advantages

Economically priced and easy to install, this system can be fitted on all new generation cars.

Application

It finds application in automotive four wheeler vehicles.

Target countries

All countries with automotive manufacturing industry (USA, Canada, Korea and Germany) and large replacement industry would find this product useful.

Collaboration Options

Joint Venture, License, Marketing and Manufacturing Agreements.

Organisation

NTTF Industries Ltd.

Elevator Gear Unit

Description

Elecon has developed a compact vertical traction machine having technical superiority edge over products available in the market. It has been designed for elevators/ lifts to ensure smooth and jerkless operation with very low noise level. Elecon elevator gear has been developed for carrying 6 to 18 persons.

Key features of the gear unit are:

- Very compact mono block casing made out of close grained cast iron with integral ribs to take care of load
- Thread ground high speed shaft made out of case hardened alloy steel
- Slow speed pulley shaft made out of high tensile steel to take care of bending and torque transmission
- Centrifugally cast phosphor bronze wheel of special grade manufactured with dedicated tooling to obtain center contact
- Fail safe type electro-magnetic shoe brake
- Low vibrations due to provision of inline motor mounting provide symmetrical shape
- Drive pulley construction in two piece i.e. removable sheave bolted with center hub
- Thrust bearing on high speed shaft to take thrust load in both directions
- Adaptable flange to suit motor mounting
- Rigid construction due to bearing block support

Advantages

The gear unit has a sleek design with low weight. It offers the ease of assembling and dismantling. It ensures comfortable ride and is technically superior to other products in the market.

Applications

This gear unit finds application in plastic, food, cheap conveyor systems, packing and chemical industries. It is best suitable where lightweight and corrosion resistance properties are required.

Target countries

Developing Countries

Collaboration Options

Marketing Agreement.

Organisation

Elecon Engineering Company Ltd.

Specifications

Gear Type	Vertical
Size	L-127
Load, Capacity	476 Kg, 7 passengers
Gear Ratio	37:1 52:1
Sheave Size	Ö 480 550 Ö 480 550
Velocity- m/sec	1.02 1.17 0.72 0.83
Electric Motor	132-L (7.5 Kg/ 1500 RPM)
Brake	Electromagnetic type
Start/Hour	240
Brake Drum Dia	200 mm
Weight (without motor)	145 Kg (approx.)

Spherical Roller Bearings

Description

The NRB self-aligning spherical roller bearing is a combination radial and axle bearing, designed to operate even if the shaft and housing are, or become misaligned under load. This type of heavy duty bearing is of favored choice when conditions include heavy loads plus difficulties in establishing and maintaining housing alignments or when the shaft deflection can be expected.

Shaft deflections and housing distortions caused by shock or heavy loads, which leads to misalignments, are compensated for by the internal self-alignment of the bearing elements during operation. Corner loading of rollers, a condition that limits service life on other types of bearings, cannot develop in spherical roller bearings. Optimum bearing capacity can often be realized with upto $\pm 1\frac{1}{2}$ degrees of misalignment, depending on the size and the series of bearing selected.

NRB manufactures spherical roller bearings with a cylindrical and tapered bore. Tapered bore series may be used either in Plummer blocks or conventional housings.

Advantages

The key features and benefits of spherical roller bearings are:

- The inherent compensation for misalignment provided by spherical roller bearing offers the designers the opportunity to use weldments for housing frames instead of complex castings, eliminating high cost machining operations. Even when castings may be preferred, the bore alignment is less critical if spherical roller bearing is specified
- Unit design and construction makes the bearing convenient to handle during installation and maintenance
- Circular grooves and lubricating holes in the outer ring makes it convenient to handle spherical roller bearing during installation and maintenance
- They perform consistently, even when marginal lubrication, contamination, extreme speeds and critical-application stress are present

Application

Applications for these bearings include vibratory systems, speed reducers, conveyors, and other heavy machinery used in power generation, oil field, mining and aggregate processing, wind turbines, gear drives and rolling mills.

Target countries

France, Germany, Sweden, Poland, UK, Italy, USA, Middle & Far East Asia

Collaboration Options

Manufacturing Agreement.

Organisation

NRB Bearings Ltd.

Cylindrical Roller Bearings

Description

NRB cylindrical roller bearings are designed to manage high radial loads and are capable of operating at high speeds.

The various type of cylindrical roller bearing differs by the rib arrangement. Selection of a particular type of bearing depends on the assembly requirements and the bearing mounting procedures.

NRB also manufactures special types of cylindrical roller bearings as per the specific requirements of the customers.

Advantages

The key features and benefits of cylindrical roller bearings are:

- They have large bores for integration into heavy duty industrial applications
- Low friction torque characteristic makes it suitable for high speed operation
- The cage and the roller is separable form the outer ring and thus can be mounted independently. This feature simplifies the mounting of a cylindrical roller bearing

Application

Cylindrical Roller Bearings are typically used in machine tools, transmissions, vibration machines and as wheel-set bearings for rail vehicles. It also finds application in power generation, oil field, mining and aggregate processing, gear drives and rolling mills.

Target countries

France, Germany, Sweden, Poland, UK, Italy, USA, Middle & Far East Asia

Collaboration Options

Manufacturing Agreement.

Organisation

NRB Bearings Ltd.

Needle Roller Bearings

Description

Needle Roller Bearings are roller bearings, which have a high load carrying capacity with a very small section height. They are available with or without an inner ring.

Needle roller bearings are light-weight but are rated for heavy loads. They employ a shell type outer ring made from a thin special steel plate, which is accurately drawn, carburised and quenched to provide the minimum sectional height of the bearing.

Several types of needle bearings are available for selection according to customer's operating conditions. They are:

Full complement needle bearings having a through-hardened outer ring which results in high static and dynamic load capacities and an ability to withstand overloading, shocks and vibration.

They are particularly suitable for operations involving oscillating motion but may not accept high speed conditions where good alignment is necessary. This can more easily be achieved using a convex inner ring raceway.

The retention of needles in outer ring enables the bearings to be installed easily during assembly.

These bearings are available with or without an inner ring from 12 mm bore size. Standard complete bearings type NA has an inner ring with convex raceway form. If extra wide inner rings or rings with lubrication hole are required, they should be ordered separately for use with corresponding RNA series.

Caged needle bearings possess an outer ring made from through hardened bearing steel. The cage guides the needles and retains them in the outer ring.

The bearings may be used without an inner ring if the shaft journal serving as a raceway is of sufficient hardness and has the correct surface finish. To ensure that the full load capacity of these bearings is achieved, a hardness of 58-64 HRC is required

Advantages

Caged type bearings are designed to accommodate higher speeds and some misalignment. Crowned rollers help increase the load rating of the bearings and steel cages provide accurate roller guidance.

Full complement needle bearings are designed to provide higher static load capacities and more radial rigidity in applications involving gears, rollers, sheaves, levers, etc.

Application

Precision needle rolling elements used in needle roller bearing have multiple uses in a variety of industries including automotive, truck, farm and construction equipment, two-cycle engines, outboard engines and consumer durables. Needle rollers are mainly used as bearing rolling elements to transmit torque and reduce friction. They can also serve as precision shafts or as precision locating pins.

Other uses for needle roller bearing include crank pins, precision shafts and as locating pins

Target countries

France, Germany, Sweden, Poland, UK, Italy,
USA, Middle & Far East Asia

Collaboration Options

Marketing Agreement.

Organisation

NRB Bearings Ltd.

Fluid Couplings

Description

Fluid Coupling is an energy saving device. It is a hydraulic coupling between an electric motor and the machine. The Hydrodrive comprises of two rotating elements- the impeller and runner- both having a large number of straight radial vanes and casing containing a measured quantity of oil.

The impeller behaves like a centrifugal pump creating an outwardly flowing stream of oil which crosses the gap to the runner, acting as a turbine. The oil stream gives up power as it flows inward between the vanes of the runner and as it returns to the impeller again, the cycle is repeated.

Advantages

The key benefits of the device are:

- Light Load Start: Without the Hydrodrive, the motor is tied to the load and is forced to pass slowly through the lower speed range, where efficiency is poor. Hydrodrive releases the motor for a "light load" start. This means that the motor is free to run up immediately to near its top speed, where efficiency is good and adequate torque is available for rapid acceleration of load without excessive current being drawn from the line
- Reduced Electrical Energy: When the motor is directly connected to the load, it demands a high current over most of the acceleration time; whereas with Hydrodrive the motor current drops rapidly to near normal running value giving a significant reduction in energy consumed
- Smooth Controlled Acceleration: When switched on, a squirrel cage motor starts harshly. With Hydrodrive, the power is transmitted entirely by the oil stream and therefore shocks from the motor are isolated and the start is perfectly smooth
- Overload Protection: The volume of oil used in the drive is adjustable over a wide range, thus allowing positive control of acceleration torque and providing accurate overload protection

Application

The Hydrodrive Fluid Coupling finds application in textile machines, marine propulsion, conveyor cranes and forklifts, fans and blowers, crushers and ball mills, centrifuges dock and dam gates, sugar machineries, re-rolling mills, wire drawing machines, rubber mixing mills, paper making and honing machines.

Target countries

All countries

Collaboration Options

Marketing and Sales Agreement

Organisation

Hydrodrive Systems and Controls (P) Ltd.

Worm Gear Reducer

Description

These are new Aluminium Housing Worm Gear Reducers from Elecon. Al-Nu reduction worm gears are manufactured in different sizes and ratios in adoptable type to meet the requirement of almost every industry.

These housings are aesthetically very attractive and the housing construction is such that it gets rigidity and strength, whereby they have an edge over the cast iron housing. The aluminium alloy design, Al-Nu has no oil vent, which allows the gear reducer to be mounted in any position on equipment without concern for vent leaks. The gearbox is supplied with factory-filled lubricant which avoids frequent oil change. In addition, the housing has a heat sink design, which is said to provide greater surface area for thermal capacity.

Key features of the Reducer are:

- No vent plugs or breathers are required (makes the gear reducer maintenance-free and prevents risk of oil oxidation and contamination)
- Compression chambers, or bladders, are not needed (prevents leaks, contributes to flexibility in mounting and prevents risk of oil oxidation and contamination)
- Worm shaft is case carburised and hardened for increased durability
- Both input and output shafts are hollow reducing need of couplings and making drive compact

Wherever, needed to convert in solid shafts (output), Shaft ends are provided

Advantages

The reducers are lightweight, rigid. There is no oil leakage. There is ease of assembly/disassembly. Six mounting positions are possible without need of any accessories. It is a hollow input shaft with motor flange and hollow output shaft as standard.

Applications

The reducers find application in light duty worm gear boxes where power is very low (upto 5 HP).

Target countries

All countries

Collaboration Options

Marketing Agreement.

Organisation

Elecon Engineering Company Ltd.

Specifications

The worm gear reducers come in sizes as 63, 80 and 100 mm, centre distance.

Ratios from 5:1 to 70:1 are available.

Model	Al-Nu
Sizes	63, 80, 100 mm centre distance
Ratio	Min 5:1 to Max 70:1
Specification	Confirms to B.S. 721/1963 for worm gearing

Variable Speed Fluid Couplings

Description

The Elecon Variable Fill Scoop Fluid Coupling provides step less speed variations when connected to a constant speed electric motor. The variation in speed is obtained by change of quantity of oil in the main circuit through scoop tube movement, sliding in & out.

The available speed regulation range depends on the type of load.

“Variable Speed” means the change of the speed of a driven machine in running condition. The coupling is therefore located between a constant speed motor and driven machine.

The ranges available are Centrifugal Loads 4:1, Constant Torque Loads 2:1, and Rising Torque Loads 1.5:1 etc., these ranges can be further extended provided operation is possible in the specified regulation range.

Advantages

The couplings lead to increased service life of motor and driving machine. It also leads to energy and cost savings.

Applications

The couplings find application in boiler feed pumps, I/D, F/D and P/H fans, compressors and pumps, conveyors, crushers, ball mills etc.

Target countries

All countries

Collaboration Options

Marketing Agreement

Organisation

Elecon Engineering Company Ltd.

Elign Multi-Crowned Geared Couplings

Description

Elign Gear coupling consists of hubs with multi crowned teeth at flank, tip and teeth. These are manufactured as per AGMA standard. Each half of the coupling is inter changeable with any of the other half, of same size of coupling.

Manufactured out of tested quality forged carbon steel and passes through a number of quality checks.

Advantages

The Geared Couplings are:

- Simple
- Light weight
- Compact
- Transmits the same power when compared to the other couplings available in the market

Applications

The Geared Couplings finds application in cement, food, fertiliser, chemical, power, material handling equipment etc.

Target countries

All countries

Collaboration Options

Marketing Agreement.

Organisation

Elecon Engineering Company Ltd.

Specification

Type	ED - With double housing ER - With one end rigid ET - With spacer EV - For vertical application ES - With single housing
Size	130 to 11500 daNm
Rating	0.136 to 12.042 kW per RPM

Metal Expansion Joints

Description

Expansion joints are incorporated in pipe and duct systems to take up thermal expansion, pressure, vibration and misalignment, thereby preventing damage to the pipe-work or ducting system.

Lonestar offers Metal Expansion Joints/Bellows from general applications to critical/extreme service applications. The various types of metal expansion joints manufactured are:

- Single Expansion Joints
- Universal Expansion Joints
- Tied Lateral Expansion Joints
- Hinged Expansion Joints
- Gimbal Expansion Joints
- Elbow Type Pressure Balanced Expansion Joints
- Inline Pressure Balanced Expansion Joints
- Externally Pressurised Expansion Joints
- Penetration Seal Bellows/Expansion Joints
- Refractory Lined Expansion Joints
- Reinforced Expansion Joints
- Jacketed Expansion Joints

Advantages

Each type of Expansion Joint mentioned above has advantages and limitations, which when applied correctly, can provide the flexibility, load reduction, structural integrity and reliability desired in a piping system.

Application

Expansion joints are vital components in most energy and industrial plants. They are installed in air and flue gas duct systems in all power plants, FGD systems, gas turbine systems, diesel engine installations, petrochemical and chemical plants, incinerators, pump systems, cement works, steel works, on and offshore systems, ships and cruise vessels, etc.

Target countries

All countries

Collaboration Options

Marketing and Sales Agreement

Organisation

Lonestar Industries

Specifications

Lonestar offers Metal Expansion Joints with following characteristics:

- For pressures as high as 250 bar (g) (3550psig) temperatures as high as 1300° C
- Both in Circular & Rectangular shapes
- In all grades of Austenitic Stainless Steel such as 304, 321, 316, 316L, 309, 310 etc., Duplex Stainless Steel such as 253 MA and High Performance Alloys such as Alloy 600, Alloy 625, Alloy 625 LCF, Alloy X 750, Alloy 800, Alloy 800H, Alloy 825, Alloy C276, Alloy 400, Cupronickel, Titanium alloys etc
- Available in single ply and multiply constructions
- Offers different convolution profiles such as U-shape, Lyra, Toroidal and Diaphragm according to service requirements

Flange Insulation Kit Gaskets

Description

Flange Insulation Kit Gaskets are designed to combat the effects of corrosion often found in flanged pipe system. Galvanic corrosion between dissimilar metal flanges, flange insulation associated with cathodic protection of underground piping are other examples where "Spiraget" Flange Insulation Kit Gasket can be put to effective use.

The design and selection of materials used in "Spiraget" Flange Insulation Kit Gasket meet the twin purposes of sealing the flanged joints and insulation metal parts to prevent flow currents responsible for corrosion.

"Spiraget" Range Insulation Kit Gaskets are designed, manufactured & supplied in three types, TYPE-E for full face flanges, TYPE-F for raised face flanges and TYPE-D gaskets specifically designed to fit into the grooves of RTJ Flanges.

One gasket set Type "E" and type "F" comprises of:

- One central gasket of suitable thickness in flat section
- One full length insulating sleeve per bolt / Integral Washer Sleeve
- Two insulating washers per bolt
- Two metallic washer electro plated

Advantages

Flange Insulation Kit Gaskets have high insulation values, durability, good mechanical properties, and are priced to customers needs

Application

Flange Insulation Kit Gaskets control current flow and seal pipe flanges. Each kit is designed to address the unique requirements of pipe installation. Some industries using this product are Oil Refineries, Chemical & Process Plants, Thermal & Atomic Power Stations and Fertiliser Plants.

Target countries

Most countries would benefit from this technology. Countries of special interest are Middle East, USA, and China.

Collaboration Options

Marketing and Sales Agreement

Organisation

IGP Engineers Pvt. Ltd.

Specifications

	Insulation Gasket	Insulation Sleeve	Insulation Washer	Plated Washer
Standard	Neoprene faced Phenolic	Reinforced Phenolic	Reinforced Phenolic	Electroplated Steel Washer
Special	Neoprene faced Phenolic	Nylon	Nylon	-do-
	-do-	Mineral filled Nylon	Mineral filled Nylon	-do-
	-do-	Polyethylene	Polyethylene	-do-
	Glass Reinforced Epoxy (G-10)	Glass Reinforced Epoxy (G-10)	Glass Reinforced Epoxy (G-10)	-do-

Kerb Laying Machine

Description

Apollo KERBER is a compact machine for laying concrete kerb of different dimensions, through extrusion process. Designed and developed as an import substitute, it offers an economical and perfect solution for laying concrete kerbs. An automatic sensor provides steering and height control

The concrete can be fed into the machine from a concrete transit mixer or a flat bed truck (tractor trolley) by shoveling process.

Advantages

The equipment is economical and the use of zero slump concrete ensures shape true to the mould design. Equipment produces concrete kerbs true to line, shape and level.

Applications

The equipment is used for laying road side concrete kerbing: continuous laying of barrier, gutter and L-shape concrete kerbing. It can lay upto 450 mm height concrete kerbs.

Target countries

African countries, CIS nations, Middle East countries, Australia, Malaysia, Bangladesh and Sri Lanka

Collaboration Options

Marketing Collaboration

Organisation

Gujarat Apollo Equipments Ltd.

Specifications

Engine	16 HP Petrol Engine
Width	1150 mm
Length (w/o Mould)	1920 mm
Length (with Mould)	2700 mm
Height	1010 mm
Weight with Mould	900 kg
Steering Control	Auto/Manual
Height Control	Auto/Manual
Turning Radius	2.4 M
Accuracy	+/-3-5 mm
Compaction Method	Ramming
Moulds	Bolt on MS moulds to specifications
Accessories	String line & holders, finishing & cutting tools