



DILIGENT ENGINEERS

Office address:- Shop No-109, Business House, Near Priyadarshani School ,Moshi-Dehu Road, Moshi ,Pine code-412105

Website:- www.diligentengineers.co.in

“ We Promise The Best ”

Email Id. – sales@diligentengineers.co.in
support@diligentengineers.co.in
diligent.engineerss@gmail.com

Contact No. – +91- 7276832503, 09657971597

Vision and Mission



VISION

“ Being the reliable global supplier for precision and quality springs.”

MISSION

Should be leaders in precision spring manufacturers by increasing customer base nationally and internationally by providing custom precision springs solutions with supreme quality, low cost, Reliable time delivery with continuous improvement of technology, Common participation & training to our employees.

Problem and Growth Opportunities



- **Customers need support for improvements in springs and suspension systems.**
- **As per our market experience there is higher demand for Hair Springs whereas there is dearth of suppliers for the same in India**
- **Delayed deliveries makes the customer non- interested**
- **Springs are vital component of any mechanical assembly and demand for precision springs is growing day by day**
- **Springs have huge demands in Automobile, Electrical component and Toy manufacturing industries.**

Why Spring ?



- Springs are the most commonly used element of a mechanical component wherever repetitive operations are involved
- It is the low cost and effective component of any mechanical assembly which can store and release the energy as and when required
- Springs can be designed indigenously to suit any form of application



Our Products



Compression spring



We supply Compression Spring in a variety of shapes and sizes including conical, barrel, tapered, or straight with specialty coiling or continuous coiling in diameters of 0.10 mm up to 60.00 mm.

"Helical Compression Springs are the most common metal spring configuration."

"Coil springs store energy to release it. Springs can also absorb impact or apply force between surfaces."

A spring may be stretched past its breaking point if excessive force is applied, irreversibly distorting it.

Compression springs have coils that are apart when at rest and press together when pressure is applied. These kinds of springs resist an applied force by pushing back



Tension spring



A type of coiled spring with touching coils is known as an extension spring. These coils separate as force is used to stretch the spring, yet the spring provides

Extension springs absorb and store energy as well as create a resistance to a pulling force.

Extension Springs are attached at both ends to other components. When these components move apart, the extension spring will pull components together again.

"Customers trust DE for durable Extension Spring and drawbar springs for garage, overhead and attic doors, furniture, heavy machinery, tools, engines, appliances, trampolines, and more. "

Conical spring



A conical spring has a larger diameter on one end. They are also called 'tapered springs'. As the spring spirals down from one end to the other, the change in diameter creates the cone shape.

In terms of load and rate, conical springs are non-linear springs. Non-linear springs are springs which do not have a constant rate.

A smaller outer diameter gives you more force and a larger diameter gives you less force so, since conical springs have different diameters throughout their bodies, the force is non-linear.

They are frequently used in various types of electrical contacts, such as push buttons and battery contacts. They also serve as essential components in many automobile suspension systems.



Torsion spring



Torsion Springs are helical springs that exert a torque or rotary force. The ends of torsion springs are attached to other components, and when those components rotate around the center of the spring.

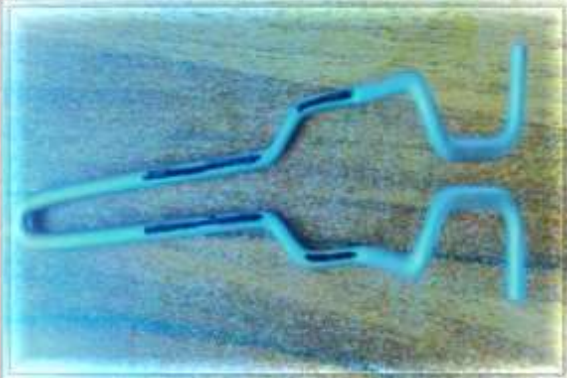
The spring tries to push them back to their original position.

The coil twists into a tighter spiral and pulls back against the applied force when force is applied to the ends. The springs found in utility trailers and vehicle doors are typical examples.



Torsion spring production typically uses coiling or shaping machinery like extension springs.

Wireform



In addition to manufacturing durable compression, extension, and torsion springs, we also produce custom Wire Forms and wire form springs for electronics, medical equipment manufacturers, and the appliance, aerospace, HVAC, automotive, construction, and agricultural industries.

Our CNC manufacturing technology allows us to cost effectively develop prototypes of complex wire form parts.



"Wire forms can be designed to provide forces in applications where a deflection or torsional force is needed using high carbon spring steel, or where support or structure is necessary using low carbon steel. Typical designs for wire forms include linkages, torsion bars/rods, and wires. Linkages are products that require the need for two or more details to connect and work together to manage forces and movement."

Heavy duty spring



Heavy duty springs must have a sturdy structure in order for it to withstand more demanding conditions. Heavy duty springs are those which undergo heavy loads and rough environments. They are usually large, hefty springs used by several industries in big machinery.

Most heavy duty springs are shorter than standard springs so that the car does not sit too high when unloaded.

The vast majority of heavy duty springs are made from a high carbon spring steel with high strength and elasticity, closely followed by stainless steels and oil-tempered steels with added chromium.

You may find heavy duty compression springs in heavy construction machines, agricultural equipment, industrial equipment and oil field equipment.

Double Torsion spring



Double torsion spring comprised of two torsion spring coils which are connected in the centre to form a single spring. The two coils are wound from a single piece of wire in opposite directions, with one wound counter clockwise and the other clockwise.

The most characteristic feature of double torsion springs is that they have two coils. One coil is wound in a clockwise direction, whereas the other is wound in an anti-clockwise direction.

Both these coils are bridged in the middle of the spring. Double torsion springs are strong, and have the capability to exert greater force.

Typical uses include car door handles, garage doors, clothes pegs, bulldog clips and hinges. In some instances, a single torsion spring cannot exert enough force. In these situations, a double torsion spring may be required.



Hair spring



A balance spring, or hairspring, is a spring attached to the balance wheel in mechanical timepieces.

Hair springs are used in different mechanical devices like: speedometers, tractor tachometers, mechanical clocks, timers, spring wound timers and also in measurement instruments like manometers and in many others.

Hair springs make sure that the balance moves at a steady rate. When the hairspring coils and uncoils, it propels the balance wheel and each swing of the balance then allows the gear train to move forward in a set amount – which is translated into time by the rest of the movement.

Spiral spring



Spiral Spring has coils wound in a spiral shape, and when a force is applied, the energy is stored and released. Then, when it is repelled by a force such as a push or a pull, motion is generated, which is extracted and used to control the mechanism.

Spiral springs are mechanical components that store mechanical energy by undergoing deformation. They are commonly used in various applications, including clocks, toys, and medical equipment.

Spiral springs are unique in their design, which makes them ideal for applications where traditional springs cannot be used.

U pins and Strips Items



Stainless Steel Strips are widely used in various industries including chemical & food processing industries, construction & building materials, automobile industries, air conditioning & refrigeration, and washers industries.

Strip forms are made up of austenitic stainless steel consists of chromium, nickel, and manganese as the main constituents, which offers excellent thermodynamic properties such as specific heat capacity, melting point, thermal conductivity and coefficient of linear expansion.

We supply these in various industries including food industries, chemical, electrical, generator, shaft, cement & gas industries.



Flat Wire



" Flat wire compression springs offer numerous advantages. They provide a high strength-to-weight ratio, making them suitable for high-stress applications. "

Additionally, they enhance space efficiency, increase stability, improve fatigue life, and offer a high load capacity. Flat springs are widely used in motors, counterbalances, switches, office equipment, generators, doors, electrical contacts, leaf springs, disc washers, hold downs, shims, clips, and more.

Suitable for fasteners , springs, surgical instruments, windings, optical, musical and lighting applications.

Our Business Scope



Coil Springs

Wire Diameter
0.10 to 60 mm

- COMPRESSION,
EXTENSION, TORSION
AND WIRE FORMS
- GRADE
SM/SH/DM/DH
- SS302/304/316L/INC
ONEL/PHOSPHOR
BRONZE (PB)/COPPER
ALLOY

Hair Springs

Wire Thickness
0.10 to 1 mm

- WITH COLLET/
WITHOUT COLLET
- PHOSPHOR BRONZE/
SS304/302/316L
- FOR APPLICATIONS
LUXURY WRIST
WATCHES, PRESSURE
GAUGES,
MEASURING
INSTRUMENTS

Our Team



Mr. Nilesh Waghmare

B.E. Mechanical Engineering

10+ years Industry Experience



Mr. Sameer Ranawade

B.E. Mechanical Engineering

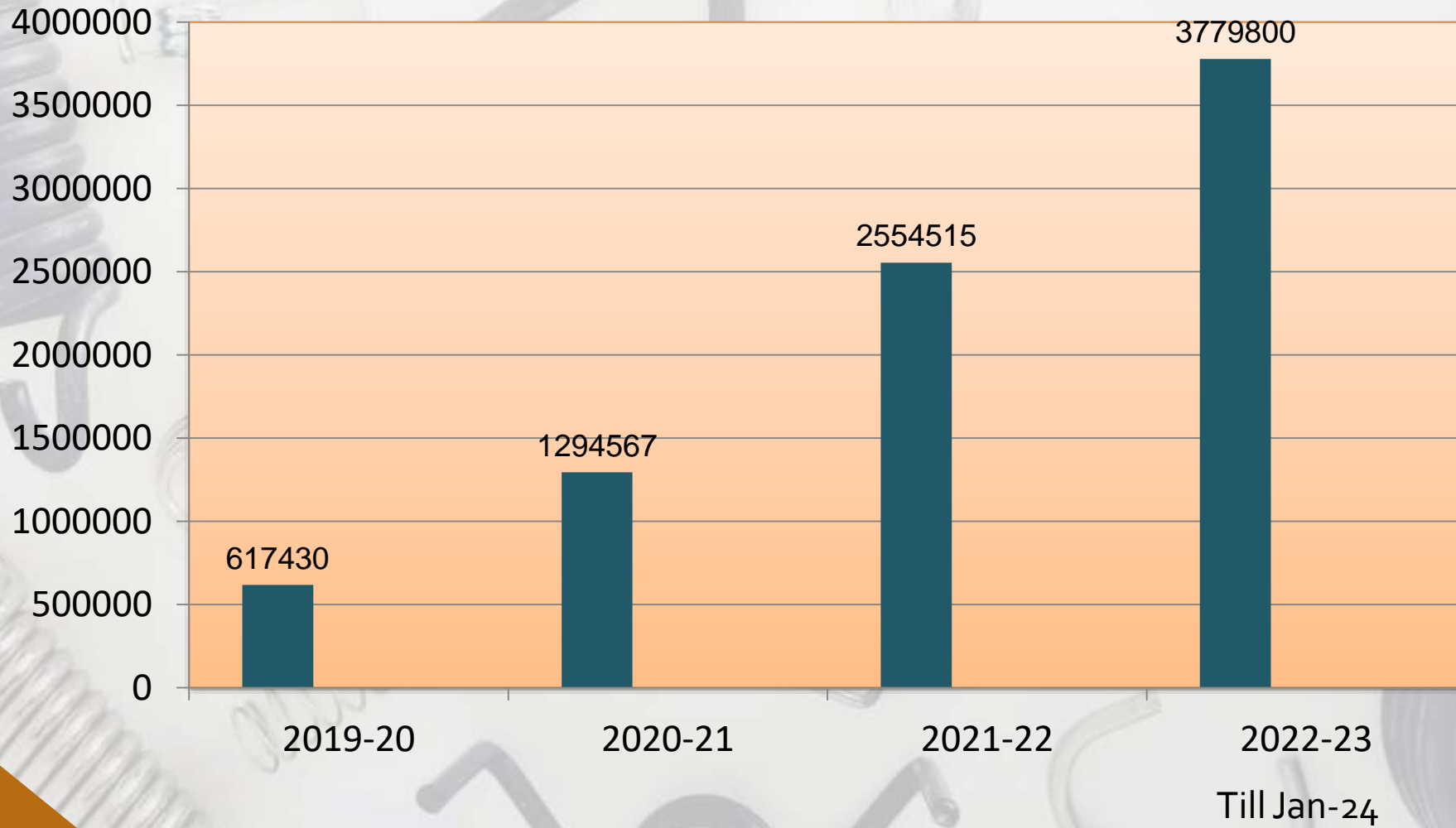
10+ years industry experience



Our Growth Chart



ANNUAL SALES DATA



Our Valued Customers



BOX OF SCIENCE



Contact Info



Mr. Nilesh Waghmare (Founder)



Mr. Sameer Ranawade (Co-Founder)



+ 91 7276832503 , + 91 9657971597



www.diligentengineers.co.in



sales@diligentengineers.co.in
support@diligentengineers.co.in



**Business House, Shop No. - 109, Near Priyadarshani
School, Moshi Dehu Road, Pimpri Chinchwad, Pune-
412105, Maharashtra, India**



Let's Begin A New Journey!

Thank you!