



## Rolled Lead Screws



**General Presentation**





## Montesi



## Rolling threading process for Drive and Lead Screws

### Rolled Drive Screws

The production and commercial distribution of Rolled trapezoidal Drive screws as profile DIN 103 ISO 2901 is one of the core activities of Montesi company.

The distribution with the brand Soluzionirullate.it is entrusted to a network of retailers nationwide and distributors in Europe.

We are offering a wide range of trapezoidal turning screws and nuts in a wide choice of materials and versions, with a constant and fueled stock availability.



### Rolled Lead Screws

The experience gained in rolling threading process was used to test and develop industrial production of lead screws with characteristics of thred geometry aimed to maximizing the efficiency of the system.

The Rolling Lead Screws range includes multistarting thread trapezoidal screws, lead screws with round thread profile called "Tondo".



### Customized machining

The production of Drive and Lead screws is supplemented by the possibility to realize on industrial scale machined customized end screws and nuts on customer drawing.



### Multistarting thread Trapezoidal Lead Screws

From 3 up to 6 starting point of pitch trapezoidal profile lead screws.



### Round profile thread geometry lead screws.



### Round profile thread geometry lead screws with multistarting pitch.



### High helix screws.



## Montesi



roll and move

## Technology and Know how

### PSF rolling threading (precision screw forming)

Montesi is manufacturing with latest generation and high quality rolling tools machine, based on PSF (precision screw forming).

This technology allows rolling tools to be positioned dynamically during the production process. By means of a CNC servo system it is possible to have a continuous calibration of the pressure delivered during plastic deformation in order to guarantee an excellent qualitative output.

The PSF technology is born for the production of rolled ballscrews .

The company Montesi has chosen as technology partner German manufacturer PROFIROLL GmbH for machines and tools.



### High automated CNC turning

The machining of end terminals occurs with automated turning cell in order to grant productivity and high quality.

Montesi production plan has always aimed to combine quality with high productivity of the production systems.



Turning manufacturing is based on highly automated CNC production cells , fully integrated with rolling departement.



### Surface coatings

The acquired know-how allows us to identify some types of high tech surface treatments that allows to significantly reduce the coefficient of friction between screw and nut. The needs are analyzed individually based on the data and the characteristics of the system to be designed.



### Test laboratory

We have internal laboratory with special equipment able to perform empirical tests for determining the efficiency ratio by measurement of the torque in a load cell.

We can internally perform tests of tensile strength and microscopic analysis on surfaces in contact of the threads.





## Montesi



## Areas of application

### When to choose rolled lead screws

The lead screws are characterized by better performance than traditional trapezoidal profile drive screws.

The efficiency is a function of:

- Degree helix angle of the thread
- Coefficient of friction between materials in contact
- Extremely low surface roughness of the sidewalls fillets in sliding contact, due to the rolling threading process

Rolled Lead screws coupled with bronze or plastic nuts improve the factors related to efficiency, making them a very convenient alternatives to the ballcrews.

In the area of electromechanical drive system the rolled lead screws allows high returns in order to limit energy absorption.

### Area of application

- Electromechanical drives
- Driving and control technology
- Industrial automation
- Technical and medical diagnostics
- Automatic vending
- Industrial automation
- Food and packaging automation
- Textile and graphic automation
- Telecommunication automation
- Climatic technical automation
- Devices for automatic doors in means of transport

### Special solutions for screws lightening

## LIGHT VERSION



We can propose alternatives to the use of special and expensive materials aimed at lightening the screws.

By the deep drilling technology we can obtain important results for the issues related to the weight of the lead screws.





## Montesi



## The Range



### Trapezoidal profile multistarting threads

Trapezoidal thread profile from 2 to 6 principles of thread.

Pitch helix from 10 mm to 28 mm. Diameters from 14 mm to 28 mm.

Suitable for movements in electromechanical operators with medium loads and average speeds.

Typically coupled with bronze nuts in order to match resistance and performance.



### Round profile thread geometry lead screws

The TONDO lead screws with a single principle of thread are an alternative to trapezoidal profile screws. They are suitable for applications with low or medium load and average travel speed.

They are proposed in combination with nuts in plastic material.

The main prerogatives are better efficiency and low noise performance compared to trapezoidal screws.



### Round profile geometry with multistarting thread

Lead Screws with geometry of the thread specifically designed to achieve better efficiency compared to acme screws. They are indicated for electromechanical operators with requirements of high performance, absence lubrication, low noise and wear resistance.

Coupled with nuts in bronze or plastic material depending on the applied loads.

Versions in carbon steel and stainless steel.

Matching the nuts modular Swap.

Represent an economical alternative to the ballscrews for applications without special requirements of precision positioning and high loads.



### High helix screws

Lead screws with high ratio between diameter and pitch screw, PASSOLUNGO screws allow to obtain a high speed with a low number of revolutions.

Being reversible they can also be used to transform linear motion into rotary.

Suitable for low loads and high travel speed with extraordinary returns.

Extraordinary to obtain high drive speed with low number of revolutions,

A great alternative to ball screws with a really interesting price / performance ratio.





**Torneria Montesi Srl a socio unico**

via Baldini 53

48010 Cotignola (Ra) - ITALY

Tel: 0545 40162

Fax : 0545 41621

[info@soluzionirullate.it](mailto:info@soluzionirullate.it)

[info@montesi.it](mailto:info@montesi.it)