

Videx Planetary Straightening Machines for Hardened Long Screws

Single Spindle models (VA-S) for Straightening only

Dual-Spindle models (VA-ST) for Straightening & Thread Rolling

The Videx Planetary Straightening machine is based on a Spiral Principle, where the bent blank is fed in between a rotary die and a segment die that have spirals on them.

The blanks are rolled in between the spirals and get straight without leaving marks on the blanks. A second (optional) station is receiving the straight parts and rolls a thread on the part.

Two models are available:

- Ⓢ M-6 to M-14, from 100mm up to 260mm long
- Ⓢ M-8 to M-16, from 100mm up to 320mm long.

The Videx machine yields better straightness than in any other system. Why?

The straightening principle is based on bending the screws over their yield point.

In most machines, this bending is done by discs, mounted in fixed (movable) locations along the screws. The locations of the discs determine the effectiveness of the process, and is subject to the skills of the operator. The Videx principle is based on a spiral form, causing the overbending spots to constantly move along the shank of the screw, so the overbending is covering the screw all along. This system takes the guess work out of the equation and does not require any decision from the operator. The result is a much better straightness.

The surface quality is better. Why?

Because the spiral, unlike the disc, is not rolling on one spot, so the stress is spread on the whole screw shank, and not only on one spot.

Can the machine accept really bent parts?

Yes. The ability to accept bent parts depends on the diameter of the straightening dies. Videx is using bigger diameter straightening dies that can feed bent parts that other machines can not feed.

Why is the Videx machine faster?

Videx straightening machine is based on a planetary system. The machine can start feeding the second blank right after the first blank got in between the dies. The machine does not have to wait until the first blank has completed the straightening process, and in fact, the only limit is the restriction of the feeder.

How are the blanks fed into the machine?

The machine is designed to work fully automatic, while blanks are fed by a blade feeder or a vibratory feeder. There is no need to manually feed the blanks.

Can the Videx machine also thread roll the screws after straightening?

Yes. This is one of the advantages of the planetary system.

The bent blanks enter the dies on one side and come out straight from the other side. The blanks are not only straight, but also oriented! Videx is taking advantage of this geometry, and instead of ejecting the straight screw blanks back into a bin, the blanks are fed into a second set of stainless steel feed rails, from where they are fed into the thread rolling dies.

What are the advantages of combining Straightening and Thread Rolling in one machine?

1. The combined machine saves on handling costs. The parts come out ready, without having to go through another process.
2. The combined machine reduces the risk of mixing parts due to the reduced parts in process.
3. Less Floor Space is required.
4. The machine thread rolls the screws at the same speed as they are straightened, making the whole operation a lot more simple and efficient.
5. The two operations are done in 2 independent station, which have no influence on each other, but both stations are equipped with set-up bolts with micrometric scales, that enable a very precise set-up and a quick repetition to a certain screw size, by recording the setting of the two operations.

How can Videx handle such long parts?

The Videx system can handle parts up to 400mm long. The principle is based on feeding the parts equally on both sides, while assuring a parallel feed on the two ends.

The machine itself has a closed structure (see separate article), assuring a perfect thread on any hardness of screw.

What are the advantages of the Planetary system?

1. **Better Thread quality** then on most other machines due to the use of the **Controlled Start** mechanism.
2. Then **Output is higher** without compromising on the quality.
3. **Lower cost of thread rolling dies** per rolled piece then on any other machine.
4. **Quick Set-up and Change-Over** due to the use of micrometric screws, hydraulic Clamping, etc.
5. **Low operating costs**. The machine has no clutch and no slides and is virtually maintenance free.
6. The VA series take very little **floor space**.

Standard features of Videx Straightening & Thread Rolling machines

- ✚ The machine is equipped with Hydraulic Clamping system and fine adjustment Micrometric Rolling Pressure bolts. This system allows accurate, fine and quick set-up when changing from one diameter to another. It also allows easy adjustment without having to apply any power.
The hydraulic clamping is available on both the straightening station and the thread rolling station.
- ✚ Videx Speed Equalizing system on both straightening and thread rolling stations; speeding up the blanks before introduction, so they are fed into the dies at the same speed as the rotary die.
This system assures zero slippage between the blanks and the dies.
- ✚ Taper-Compensation mechanism, for a parallel thread on any combination of thread length and part hardness.
- ✚ Feed Rails made out of stainless steel, with replaceable ends, assure years of trouble free operation.
The Top Rail is spring loaded, with another spring loaded end, for quick removal of parts from the rails. The upper rail is opened and closed in a second.
- ✚ The introduction of blanks into the straightening and thread rolling dies is done by a Pneumatic plungers operating the feed fingers.
- ✚ AC speed controller on the main motor, allowing straightening and thread rolling at the highest production rate available for each part.
- ✚ Extremely Quick Change-over from one part to another. Preset matched heads and feed fingers are available for every thread diameter.
- ✚ Dual-Feeder models, feeding both headless parts and standard bolts (see above picture).
- ✚ All moving parts turn on bearings. No slides and no linear guides.