Manufacturing Process of Key Components for Buraschi Sewing Machine

At **Buraschi**, our commitment to strength, reliability, and durability is reflected in the manufacturing process of our sewing machine components. Unlike standard machines that use casted parts, we employ **CNC machining from drawn bars** to ensure the highest quality and performance.

CNC Machining from a Drawn Bar

Our key components are crafted through precise **CNC machining from solid bars**, rather than using casted parts. This process retains the structural integrity of the material, producing parts that are significantly stronger and more reliable. Below is an example of how CNC machining is used for component production:

- **Strength & Durability:** The CNC machining process maintains the natural strength of the material, ensuring that components can withstand high stress without failure.
- **Reliability:** CNC machined parts exhibit superior performance, free from defects such as porosity or blowholes, common in casted parts.

Heat Treatment for Longevity

To further enhance the durability of our components, we apply **selective heat treatments** to critical areas. This ensures that the structure is robust yet resistant to wear, providing long-term reliability. The treatment is customized based on each part's function, optimizing both strength and wear resistance.

Material Integrity: Homogeneous Microstructure

The microstructure of a drawn bar, such as **AISI 4317**, is uniform and free of defects. When magnified (1:370), the cross-section shows a **homogeneous structure with no porosity**, providing unmatched reliability and strength. This is in stark contrast to casted components, where magnification often reveals **voids and blowholes**, resulting in a weaker, less dependable part.

Casted Components vs. CNC Machined Components

- **CNC Machined Components:** CNC machined parts from a drawn bar have a consistent, solid structure, offering **superior strength and durability**.

Material AISI 4317
magnified 1:370

- **Casted Components:** Although casted parts may be more cost-effective due to mold-based production, their cross-sections often display imperfections like **blowholes and voids**, making them weaker and less reliable for long-term use.

Material AISI 4317
magnified 1:370

Conclusion

By using **CNC machined drawn bar components** and specialized **heat treatments**, Buraschi sewing machines are designed to offer superior performance, with parts that are stronger, more reliable, and longer-lasting compared to machines made with casted parts.

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