Rapid mounting of horizontal pumps for throat sprays
The automated assembly unit is constructed as a cam-controlled rotary transfer system with 28 stations and 28 workpiece supports. The machine has been designed for production in ISO Class 7 clean rooms. The machine assembly is used to produce 32 variants of horizontal pumps, including stand pipe assembly, at a cyclical output rate of 65 cycles/minute (2-track). The individual parts are fed in as bulk material by sorting systems and assembled by cam-controlled handling systems.

**Horizontal pump**
Comprising the following individual components
- Protective cap
- Spray head
- SnapOn
- Bevel
- Spring
- Ball
- Housing
- Stand pipe
Station 3
Feed in threaded cap or SnapOn cap and insert in workpiece carrier

The caps are sent to a supply hopper as bulk material. If there is a shortage of parts, the sorting bowl is supplied from this supply hopper. The caps are arranged in the sorting bowl and placed in the correct position before being fed to a linear conveyor section.

Station 14
Assemble stand pipe

The stand pipe is fed into a combined feed and cutting unit, from its coil. This servo-driven feed unit unwinds the stand pipe from the coil and presses it into the housing. The feed unit then travels backwards along the stand pipe, by an adjustable distance (any distance between 10 and 200 mm), with its grippers open, and cuts the stand pipe. The cutting tool can be changed to suit different pipe diameters.

No tool is necessary for changing the cutting tool.

Station 19
Rotate the component assembly

The assembly is removed from the internal workpiece carrier supports by a cam-controlled pick & place handling system, and transferred to an externally positioned handling system. This handling system is used to rotate the assembly by 180° and then insert it in the external workpiece carrier supports.
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