

# Press Release

## Tube Machining

Operations on tubings and pipes generally require multiple manufacturing steps such as cutting, chamfering, face-off, turning, tapping incl. thread milling or thread forming.

Higher part quantities usually combined with the need for different manufacturing steps demand efficient and time saving production methods to help reduce time and cost. Special purpose machines such as rotary & linear transfer machines, offer the best solutions to help obtain short part cycle times.

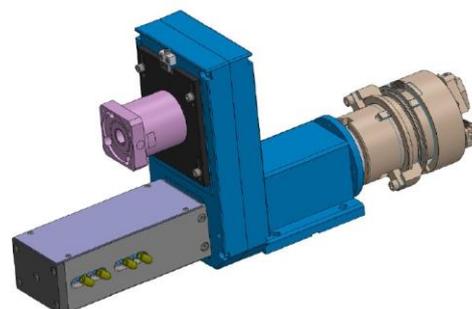


A wealth of experience with operations on transfer machines allows SUHNER to optimize a manufacturing process with standard or custom made solutions for each and every different application. One specific application is for large & long OD threads. These operations are extremely difficult and challenging for manufacturers when trying to obtain short cycle times, simply because an OD threading operation by itself will dictate the overall machine cycle time.



*SUHNER special unit BEX35 ISO40 with WAGNER Z27-2 head and BEX15 Weldon*

SUHNER, in cooperation with WAGNER, a German manufacturer for OD thread rolling heads, has developed a special process, which allows threading operations in very short cycle times. A pneumatic cylinder activated system is used to open and close the thread rolling head which is equipped with multiple thread cutting or forming inserts.

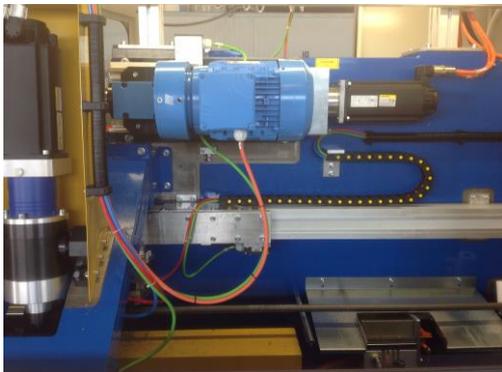


*Special unit BEX35 ISO40 equipped with WAGNER Z27-2 thread rolling head allows to optimize OD thread rolling operations and shorten machine cycle time*



The work piece is fed from bar stock material. After a cut to length operation, it is machined by (3) BEX15 machining units with special Weldon tool holders. Operations include OD & ID and face turning. All units are equipped with a 1.5kW motor and high precision angular contact spindle bearings.

*The machining of tubings begins from bar stock length  
The transfer machine performs OD and ID turning incl.  
chamfering operations followed by thread rolling.*



*OD and ID turning station with BEX15-Weldon, 1.5kW motor drive and high precision angular contact spindle bearings*



*BEX35-ISO40 & WAGNER Z27-2 rolling head*

The most interesting station on this machine is the one for an OD threading operation, which is accomplished with a BEX35-ISO40 machining unit equipped with a WAGNER thread rolling head type Z27-2. In this operation, the thread rolling head is rotating and the work piece is stationary. The feed motion for this station is done with a CNC slide unit. In order to synchronize the thread pitch, both BEX35 spindle and CNC slide are servo motor driven.

As soon as the threading operation is finished, the WAGNER thread rolling head with integrated inserts opens quickly to allow a fast return to home position.

Opening and closing action of the head is done by way of an internal BEX35 drawbar, which is controlled by a 3-position pneumatic cylinder.

This pneumatic 3-position cylinder is designed to make an additional stroke of 10mm. This allows for head and insert adjustments or replacements depending on thread size.



*Das System mit hinten and der Einheit BEX35 montiertem pneumatischen Doppelzylinder*



Depending on length, a typical OD thread rolling cycle time ranges between 6 to 10 seconds. Illustrated work pieces are steel tubings as used in the heating product industry. There are 7 part variations, each with a different thread size, pitch and length requirement. Thanks to the application of CNC servo driven spindle and slide components, customers can achieve very short change over time.



*TOP; Range of support work pieces for heating and air conditioning industry*

*BOTTOM: WAGNER Z27-2 thread rolling head in action*

**For more information:**

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