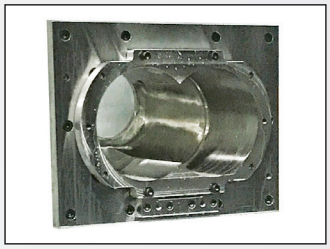
WOHLHAUPTER™ COMBI-LINE

Cycle time is crucial, so what's taking *you* so long?



Time is money when it comes to moving finished parts through your manufacturing process. Our customer was machining 316 stainless steel to produce pump covers for the food processing industry. Each part had 2 holes that included an interrupted cut, and our customer needed 2 different tools to complete the process. The roughing tool they used ran for 8.5 minutes per hole, and the finishing tool ran for 23.5 minutes per hole. Overall, our customer was spending over 1 hour to complete a single part.

The cycle time was killing productivity, and our customer knew there had to be a more efficient solution available. They tested the **Wohlhaupter Combi-Line** boring system, and the results were exactly what our customer needed. The Combi-Line tool slashed the cycle time from 1 hour to just 17 minutes, less than 1/3 the previous cycle time (***a 73% reduction***). Equipped with a height adjustable roughing unit on one side and a precision finishing tool on the other, the Combi-Line achieved both the rough and finish processes with 1 solution. This multi-function combination eliminated the need for multiple tools and reduced our customer's inventory requirements.

Another challenge our customer faced with their previous tooling was insert damage. They struggled to produce even 1 part without chipping an insert in the stainless steel material. With Wohlhaupter's stainless steel grade inserts designed specifically for success in this type of material, the Combi-Line tool solved the chip damage issue for our customer.

Thanks to the Combi-Line tooling solution, our customer's lengthy, troublesome process became a worry-free application that could be completed 73% faster. ***Don't struggle with inefficient applications; call your local tooling specialist, and find the right tool for your job today.***

Product: Wohlhaupter™ Combi-Line

Objectives: (1) Improve cycle time
(2) Eliminate insert damage

Industry: General machining

Part: Pump cover

Material: 316 stainless steel

Hole Ø: 8.500" *(215.9 mm)*

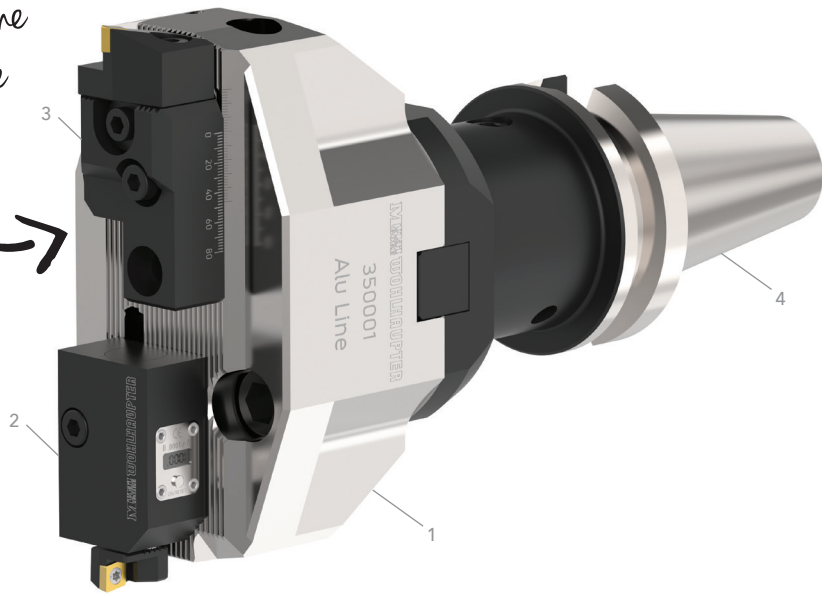
Hole Depth: 8.500" *(215.9 mm)*

Measure	Previous Process		Wohlhaupter Combi-Line
	Roughing Tool	Finishing Tool	
RPM	200	180	250
Speed Rate	445 SFM *(135.636 M/min)*	401 SFM *(122.225 M/min)*	556 SFM *(169.469 M/min)*
Feed Rate	0.005 IPR *(0.127 mm/rev)*	0.002 IPR *(0.051 mm/rev)*	0.004 IPR *(0.102 mm/rev)*
Penetration Rate	1.00 IPM *(25.4 mm/min)*	0.36 IPM *(9.144 mm/min)*	1.00 IPM *(25.4 mm/min)*
Cycle Time (per hole)	8 min 30 sec	23 min 36 sec	8 min 30 sec
Cycle Time (per part)	1 hr 4 min		17 min

- Combi-Line assembly:
  (1) ***Serrated slide: 350001***
  (2) ***Digital finish boring tool: 538001***
  (3) ***Rough boring tool: 149059***
  (4) ***Master shank: 327023***

- Boring inserts
  Item No. 397166WHC114

73% cycle time decrease



The Wohlhaupter Combi-Line tool:

- Decreased cycle time ✓
- Eliminated insert damage ✓
- Reduced inventory requirements ✓
- Provided worry-free machining ✓