



Deep hole tooling Manufacturer  
**UNITAC INCORPORATED**

Member IMC Group

# UNITAC **Deep Hole** drills

support the highest level of

**P**roductivity

**Q**uality

**R**eliability

in the world



Automotive



Aerospace



Heat Exchanger



High-speed Train



Die & Mold



Shipbuilding



Construction machinery



Oil & Gas



Steel



Machine Builder



Clean Energy



**DRILL DEEP INTO THE FUTURE >>>**

## 0124 Drill Head



Direct Mount Drill Head - No diameter setting necessary

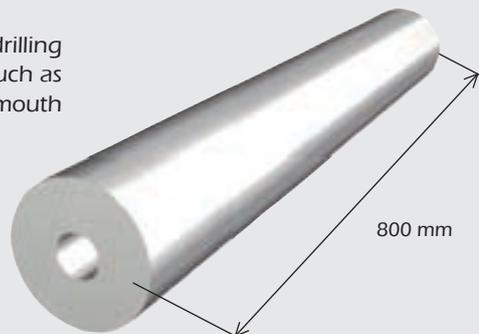


## **H**igh Productivity

Chip evacuation is one of the important factors to achieve successful deep hole drilling. UNITAC 0124 drill's large chip mouth sufficiently evacuates a large amount of chips eliminating jamming, resulting in higher productivity.

### Stainless steel billet drilling Chip evacuation, 455 cc per minute

0124 drill head enables high speed drilling even with difficult-to-cut materials such as stainless steel, with the large chip mouth evacuating chips quickly.



Cutting speed	100 m/min
Feed per revolution	0.28 mm/rev
Chipbreaker	G
Grade	UC2220 (NLX)

Tool Dia.  $\phi$  65.00 mm  
Workpiece SUS304



$\phi$  30.00 ~ 65.00 mm

# Brazed Drilling Tools



ZAP  
Coating



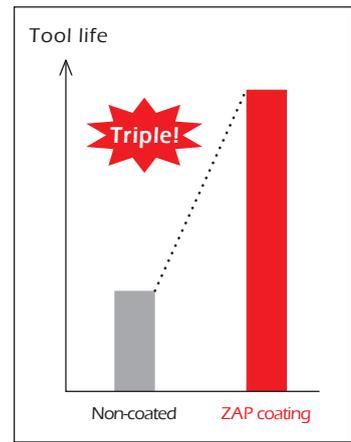
**BTU type drill head**

## High Accuracy & Long Tool Life

Recently coating is applied to every metal working tool in order to increase productivity and tool life. Coating is a thin ceramic film which protects the tool from heat and friction. However the coating needs to be processed under high temperature conditions and thus it had been considered to be impossible to apply coating to brazed tools.

Unitac is one of the first tool manufacturers to solve this difficult challenge and stands alone in guaranteeing the precision of coated tools.

As a dedicated manufacturer, Unitac produces all brazed tools in-house including coating process. Unitac's unique ZAP coating, (one type of PVD coating) which consists of four elements achieves up to three times longer tool life compared with non-coated tools. This made both high accuracy and longer tool life available also for increasingly-demanded difficult-to-cut materials.



UNITAC Brazed tools



φ 8.00 ~ 65.00 mm

# UNITAC Application Technology



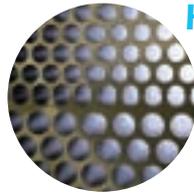
## Steel

Inconel drilling - tool life increase



0124 Drill Head

Drilling D30X660mm, increase in tool life with better chip evacuation and improved coolant flow. Hole straightness of 0.13mm/m or better.



## Heat Exchanger

Cutting cost reduction in low-alloy steel



0124 Drill Head

Better chip evacuation enables more stable cutting. No chip jamming even with a 21 % increase in table feed compared to other tools in the market. With this improvement, cutting cost is reduced by 23 % per workpiece material.



## Energy

Turbine casing drilling



DTS tooling

The casings, huge components of power generators, require a large number of bolt holes which in the past demanded long machining time with high-speed steel drills and finish boring. Our innovative DTS (Double Tube System) tooling has been able to dramatically reduce this machining time from 250 min. to 20 min.



## Automotive

Power steering shaft drilling



BTU drill

Drilling D12.6X500mm, reduced machining time significantly from 4.5 min. to 2 min. per workpiece with STS (BTA) drilling which replaced gundrilling. Also better accuracy was achieved.



## High-speed Train

High-speed train axle drilling



UNIDEX

Drilling D60X2600mm, achieved the required hole tolerance in one pass before honing. Also helped to reduce operation process, lowering overall machining time.



## Clean Energy

Wind power generator, main shaft drilling



UNIDEX

Drilling D155X1500mm, achieved straightness of 0.2mm/1,500mm in one pass solid drilling of high hardness steel.



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