Hard Broach

Allows finishing of hardened steels
Carbide hard broach and hard broaching machine allows finish cutting of hardened steel

High-efficiency machining
High efficiency finishing instead of grinding is possible
Finishing after heat treatment possible

Hard Broaching Machine HW-5008

Hard Broach machining (Carbide Broach)

1. Finishing of parts after heat treatment for improved accuracy
2. Replacement of grinding process
   (For a high accuracy level, similar to that achieved by grinding, and for process improvement)
Nachi-developed broaching machine allows a cutting speed of 60m/min

Pulling force: 50 kN (50ton)
Max. stroke: 800m
Cutting speed: 1～60m/min
Machine height: 3400mm
Floor space: 1780×1900mm
Machine mass: 5700Kg
Machining accuracy -- Squareness

Cutting speed: 60m/min  
Material: SCM420 (60HRC)  
Coolant: Semi-dry  

Before broaching (after heat treatment): 21μm  
Squareness after broaching: 3μm
Machining accuracy -- BPD (Between Pin Dia.) dispersion

Workpiece specifications
DP16/32PA30°NG26
Hardness 60HRC

Machining section
Involute spline

Cutting condition
Cutting speed: 60m/min
Cutting margin: 0.25mm (BPD)
Semi-dry condition
Cost comparison of hard broaching and grinding

Machining cost

Grinding

Tooling cost 10
Equipment cost 90

Hard broaching

Tooling cost 25
Equipment cost 25