Technical Parameters of Asphalt Cutting Head for Milling Machine

I: Product Overview

Aotian possesses its own milling and grinding machine construction team, and its products have undergone continuous iterations based on field tests under diverse operating conditions. The cutting teeth employ a vacuum brazing process using specialized brazing materials, ensuring a robust bond between the tungsten carbide alloy tip and the 42CrMo ultra-high-strength steel tool holder. The tool head exhibits high hardness and superior wear resistance, making it resistant to chipping during operation, while its secure assembly guarantees safe and reliable performance. This design effectively reduces the risk of tool failure, prevents work stoppages caused by tool damage, saves construction time, and is well-suited for various heavy-duty milling and cutting applications.

II: Process Overview

Vacuum brazing is employed in a vacuum-sealed environment, utilizing specialized brazing flux at temperatures below the melting point of the base metal. This process melts and wets the brazing flux, thereby achieving a metallurgical bond between the tungsten carbide alloy cutting head and the 42CrMo steel tool shank. The vacuum environment prevents oxidation, resulting in dense weld seams free of pores, high bonding strength, and avoidance of cutting head detachment. This ensures the stable operation of the cutting teeth under impact and shear loads.

III: Product Technical Specifications

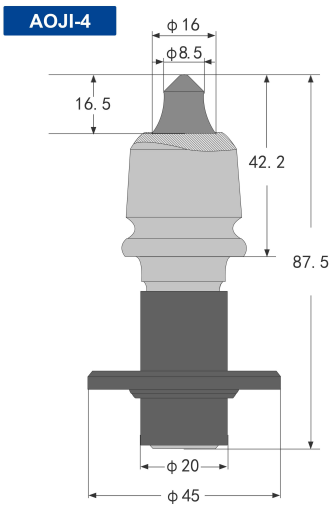
The following table outlines the technical parameters of our company's milling cutter head products; all specifications can be customized in accordance with the customer's drawing requirements.

Parameter Items	qualification
Carbide tip specifications	
Cemented Carbide Grade	Asphalt cutting head alloy: KC30; Cement cutting head alloy: KC35G
Chemical Composition	WC (tungsten carbide): 94% ±1%; Co (cobalt): 6% ± 0.5%

Grain Size	1.0−1.5 μm (fine grains)
Hardness(HRA)	87.9 HRA
Flexural Strength TRS	≥1,470 MPa
Handle steel body specifications	
Material Grade	42CrMo
Chemical Composition	C%：0.38~0.45；Mn%：0.50~0.80；Si%：0.17~0.37； P%:≤0.025；S%:≤0.025；Cr%：0.90~1.20； Mo%：0.15~0.25；Cu%:≤0.30
Hardness Range	42 ~ 48 HRC
Operative Norm	GB/T 3077-2015 (Alloy structural steel)
Brazing Specifications	
Brazing Filler Metal	Copper-based brazing materials
Brazing Process	vacuum brazing

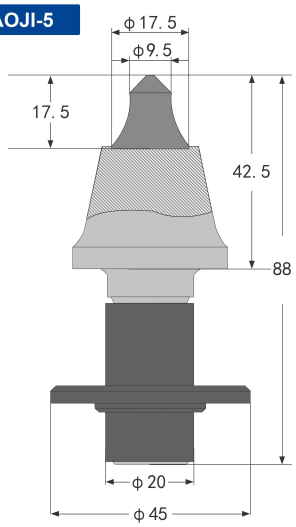
3: Product Dimension Diagram • Customizable Dimensions





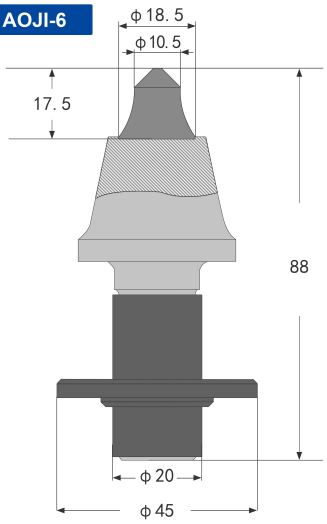


AOJI-5



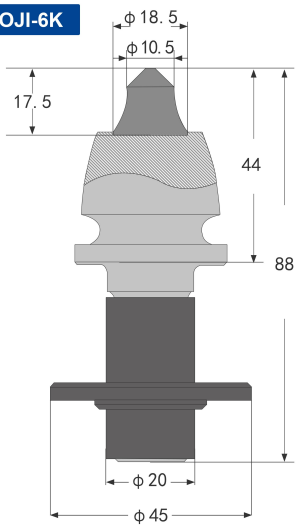


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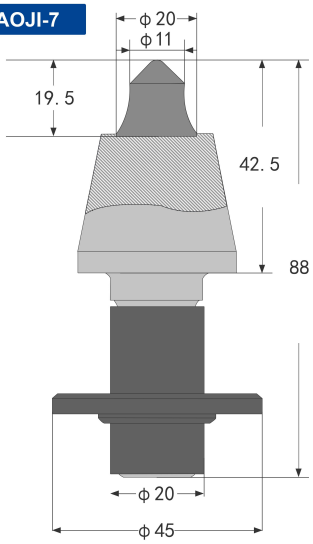


AOJI-6K



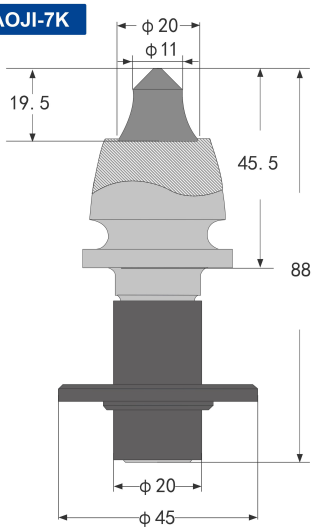


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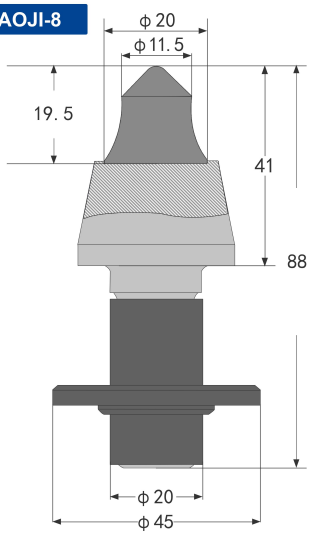


AOJI-7K



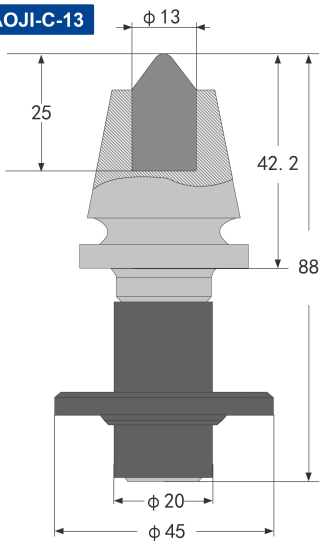


AOJI-8



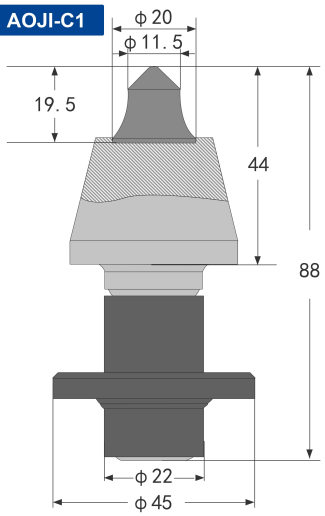


AOJI-C-13



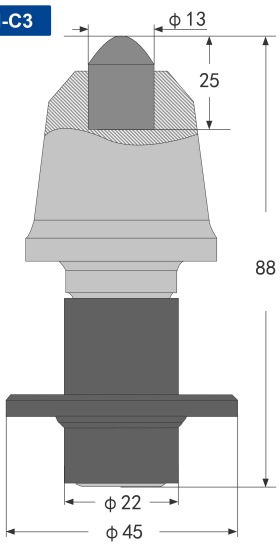


AOJI-C1





AOJI-C3



Note: Customization is available for large orders.

4. Applicable Models and Operating Conditions

Recommended Milling Machine Models

Material to be milled	Performance class, machine type / Pick designation, Part NO.		Small milling machines			Compact milling machines	Large milling machines
			0.35m	0.5m	1m rear		
	with extractor groove	without extractor groove	W350E, W35, W35DC, W35R	W50, W50DC, W50H, W50R, W60R	W60, W100(H), W100(L), W100R, W130H	W100F, W120F, W130F, W150, W100CF, W120CF, W130CF, W150CF	W1500, W1900, W2000, W200, W200H, W2100, W210, W2200, W220, W250
Asphalt (cap+ shaped carbide tips)	 AOJI-4		●●	●●	●	○	○
		 AOJI-5	○	●	●●	●	○
	 AOJI-6K	 AOJI-6	○	○	●	●●	●
	 AOJI-7K	 AOJI-7	○	○	○	●	●●
		 AOJI-8	○	○	○	○	●
Concrete (cylindrical carbide tips)	 AOJI-C-13		○	○	○	○	●●

●● *Very recommendable* ● *Recommendable* ○ *Only conditionally recommendable*

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Recommended operating conditions

Milling material	Asphalt cutting head			Cement cutting blade
Milling tip model	AOJI-6	AOJI-7	AOJI-8	AOJI-C-13
Applicable operating conditions	Asphalt, modified asphalt, and crushed stone with lime and gypsum	Asphalt, modified asphalt, and lime-and-sand aggregate	Double-cement crushed stone (including pebbles)	concrete pavement
Standard construction cube range	800-1000	1000-1200	400-800	600-800
Maximum construction cubic volume of the experiment	1200	1500	800	1000

V: Attached Product Packaging





