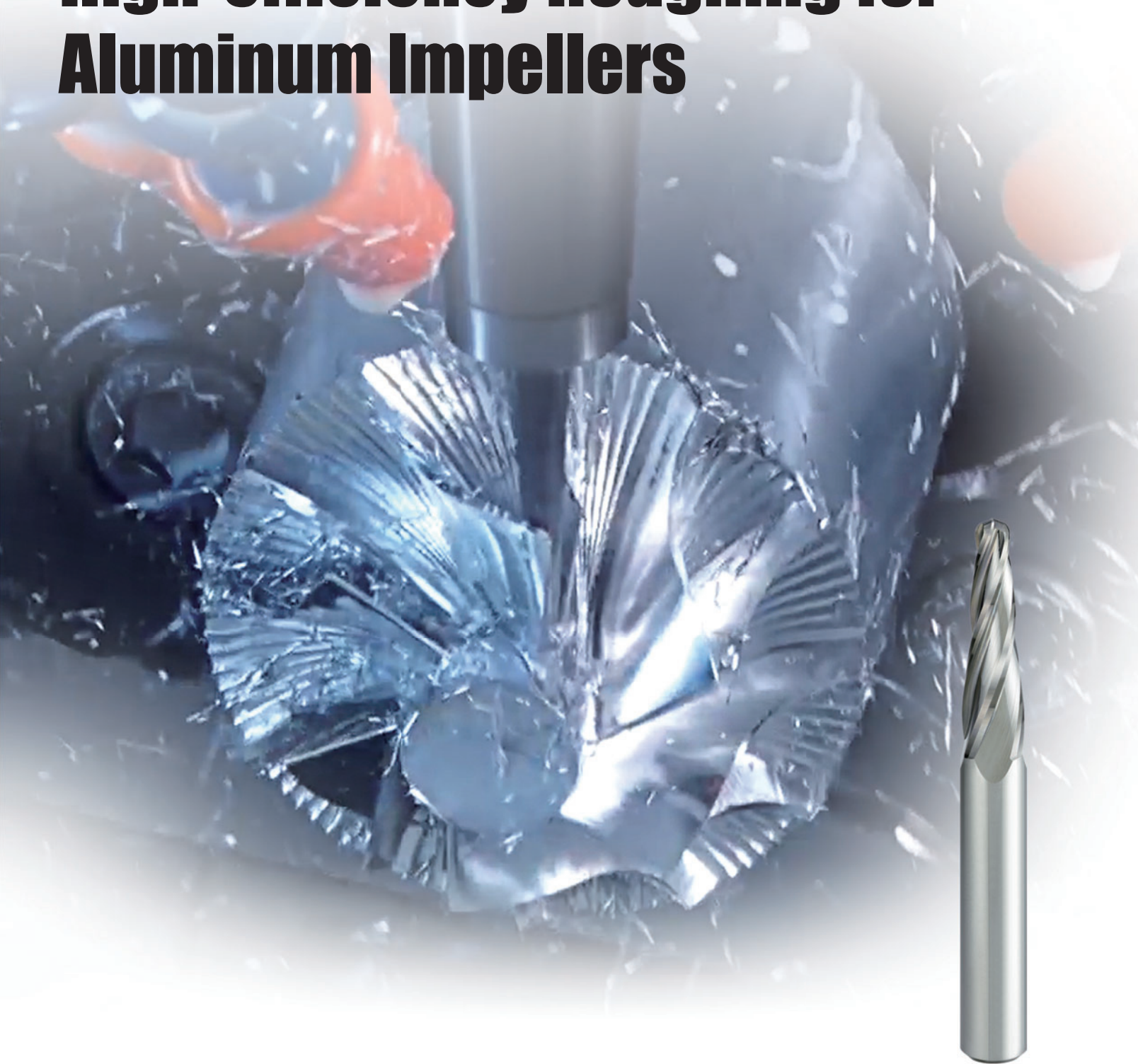


Taper Ball End Mill for Aluminum Impellers

# ***C4LATB***



## **High-efficiency Roughing for Aluminum Impellers**



Taper Ball End Mill for Aluminum Impellers

# ***C4LATB***

**2 ball flutes and 4 peripheral flutes can maintain constant chip discharge and stable tool rigidity.**



**Please inquire with us regarding special items.**

## **Application Example**

**High-efficiency Cutting for Aluminum Alloy Impellers**

Excellent high depth of cut and high feed.

Conventional



**Breakage During Grooving**

***C4LATB***



**High Durability**

<Cutting Conditions>

Work Material : Aluminum Alloy  
(A2618-T61)  
Tool : C4LATBR100T040AP20  
Revolution : 20000 min<sup>-1</sup>

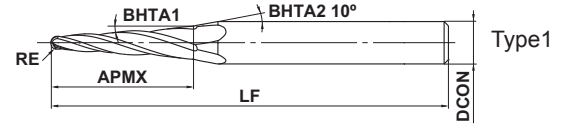
Max. Feed Rate : 78.74 IPM  
Max. Depth of Cut : ap=.433 inch  
Cutting Mode : Water Based  
Machine : Vertical M/C

# C4LATB NEW

Ball nose taper end mill, Long cut length, 4 flute, For aluminum impellers



Carbon Steel, Alloy Steel, Cast Iron (<30HRC)	Tool Steel, Pre-hardened Steel, Hardened Steel (≤45HRC)	Hardened Steel (≤55HRC)	Hardened Steel (>55HRC)	Austenitic Stainless Steel	Titanium Alloy, Heat Resistant Alloy	Copper Alloy	Aluminum Alloy
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R	RE ≤ 2				
	± 0.010				
±5'					
h6	DCON=6	DCON=8			
	$\begin{matrix} 0 \\ -0.008 \end{matrix}$	$\begin{matrix} 0 \\ -0.009 \end{matrix}$			

● High-efficiency roughing for aluminum impellers.

Order Number	RE	BHTA1	APMX	LF	DCON	No.F <sup>*</sup>	Stock	Type
C4LATBR050T040AP20	0.5	4°	20	70	6	4	●	1
C4LATBR100T040AP20	1	4°	20	70	6	4	●	1
C4LATBR150T040AP20	1.5	4°	20	75	8	4	●	1
C4LATBR200T040AP30	2	4°	30	75	8	4	●	2

\* Number of Flutes

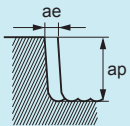
(Note) Please inquire with us regarding non-standard special shapes (ex.: RE sizes starting from a minimum of R0.3, half included taper angles) or coatings.

● : Inventory maintained.

## Recommended Cutting Conditions


### Side Milling

(mm)

Work material	Aluminum alloy			
RE	n (min <sup>-1</sup> )	vf (mm/min)	ap	ae
<b>R0.5</b>	20000	2000	15	0.75
<b>R1</b>	20000	4000	15	1.5
<b>R1.5</b>	20000	5200	15	2.25
<b>R2</b>	20000	5200	23	3
Depth of cut				

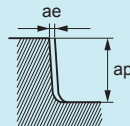
### Slotting

(mm)

Work material	Aluminum alloy		
RE	n (min <sup>-1</sup> )	vf (mm/min)	ap
<b>R0.5</b>	20000	600	10
<b>R1</b>	20000	2800	10
<b>R1.5</b>	20000	4000	10
<b>R2</b>	20000	4000	15
Depth of cut			

### Side Milling (For Finishing)

(mm)

Work material	Aluminum alloy			
RE	n (min <sup>-1</sup> )	vf (mm/min)	ap	ae
<b>R0.5</b>	20000	800	18	0.1
<b>R1</b>	20000	2000	18	0.2
<b>R1.5</b>	20000	2400	18	0.3
<b>R2</b>	20000	2400	27	0.3
Depth of cut				



Case Examples for Special Items

- 1) Water-soluble cutting fluid is recommended.
- 2) Climb cutting is recommended for side milling.
- 3) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately, or set the depth of cut smaller.

#### For your safety

●Don't touch breakers and chips without gloves. ●Please machine within recommended application range, and exchange expired tools with new parts in advance. ●Please use safety cover and wear safety glasses. ●When using compounded cutting oils, please take fire prevention. ●When attaching chips or spare parts, please use the attached wrench or driver. ●When using tools in revolution machining, please make a trial run to check run-out, vibration, abnormal sounds etc.

## MITSUBISHI MATERIALS CORPORATION

### MITSUBISHI MATERIALS U.S.A. CORPORATION

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(Tools specifications subject to change without notice.)