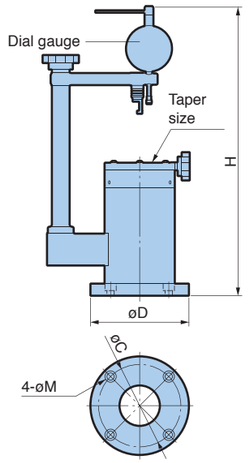
PL Presetter

Necessity of cutting edge presetting



- Exclusive presetter for quick adjustment in micron order.
- Each cutting edge height is adjustable within 15 sec.

Model	Taper size	H	øD	øC	øM	Max. tool lengh	Weight (kg)
PLP-BBT30	BBT30	＞417	122	102	9 (for M8)	150	7.5
-BBT40	BBT40						7.6
-BBT50	BBT50	＞502	172	149	11 (for M10)	160	17.5
-HSK63	HSK-A63	＞417	122	102	9 (for M8)	150	7.7

1. Dail gauge and indicator stabilizer (2pcs. AAA batteries included) are standard accessories.
2. Min. leading of the accessory dial gauge is 0.001mm.
3. BT shank cannot be used.
4. Max. tool length indicated in the table is the dimension from the gauge line of the arbor to the cutting edge.
5. Max. cutter diameter is ø160mm.

Arbor

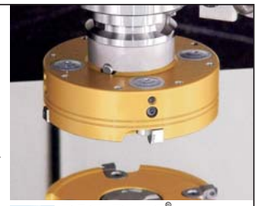
Cutter dia.	BBT30	BBT40	BBT50	HSK-A63
ø50	BBT30-FMH22-47-45	BBT40-FMH22-47- 45 - 60 - 90	BBT50-FMH22-47- 60 -105	HSK-A63-FMH22-47- 45 -60 -90
ø63		BBT40-FMH22-60- 45 - 60 - 90	BBT50-FMH22-60- 60 -105	
ø80	BBT30-FMH27-60-45	BBT40-FMH27-76- 60 - 90	BBT50-FMH27-76- 45 -90	HSK-A63-FMH27-60- 60 -90

Pearl Mirror Cut utilizes ultra precise tool carriers in the cutting edge height adjusting mechanism.

High speed cutter for aluminum

Pearl Mirror Cut® PAT.P

- Quick and perfect cutting edge height adjustment. Within 1µm adjustment is achieved with ultra precise tool carriers
- Ultra lightweight, 2.5kg (BBT30 ø125mm)



BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

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ISO 9001
JQA-QMA11602
AWAJI No.1 Factory
JQA-QM3913
FA Dept.

CATALOG No.EXm167-1110-1
Subject to technical changes by further developments.

BIG DAISHOWA

High speed cutter for aluminum and cast iron

SPEED Finisher

NEW

BIG DAISHOWA SEIKI CO LTD CATALOG No. **EXm167**

For aluminum & cast iron

Diameter : ø50, ø63, ø80

Amazing improvement of surface finish at high speed cutting!!

Cutting edge height adjustable

Aluminum die casting ADC12 **Rz=0.55µm**

Gray cast iron FC250 **Rz=0.67µm**

High speed cutter for aluminum and cast iron

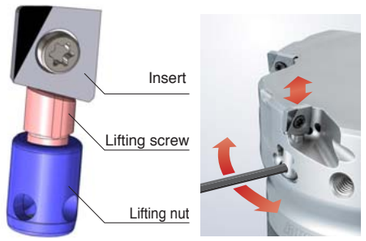
BIG SPEED Finisher

BIG DAISHOWA

Each cutting edge height is adjustable within 1μm.

Quick adjustment of cutting edge height

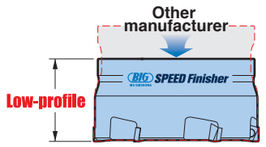
After clamping the insert, lifting screw lifts up the insert directly by revolving the lifting nut from its side. Simple construction aids easy adjusting operation. Fine pitch thread of the lift screw ensures precise adjustment.



Exclusive PL Presetter shortens the setup time further up to 15 sec./insert while avoiding chipping of the cutting edge.

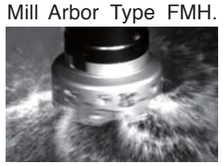
Lightweight & high rigidity

Low-profile cutter body enhances rigidity, minimizes vibration and distortion, leading to the minimized height difference of the machined surface. Ligther weight resulted from reduced mass aids performance on small machine tools such as BT30 spindle.

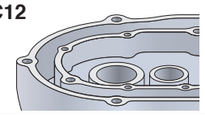
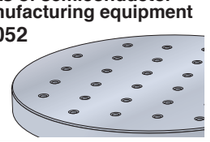
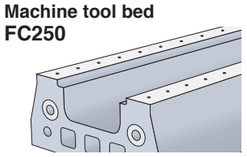


Secure coolant supply to the cutting edges

Coolant is supplied to the cutting edge directly in combination with the Face Mill Arbor Type FMH. Especially effective to avoid built-up edges when cutting aluminum and possible re-cutting of the swarf.



Application examples (Cutter diameter : ø80)

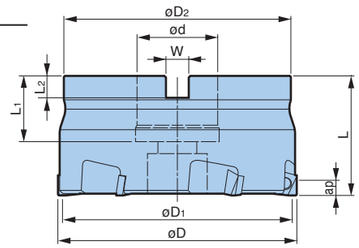
Workpiece	Conditions	Surface roughness	Height difference	No. of workpiece	Result
Crankcase ADC12 	Cutting speed : 4,000m/min Spindle speed : 15,900min^{-1} Feed rate : 9,550mm/min Depth of cut : 2.5mm	**Ra=0.08μm Rz=0.55μm**	**Within 1μm**	**24,000**	**Rough & finish processes are combined in a single operation.**
Parts of semiconductor manufacturing equipment A5052 	Cutting speed : 4,000m/min Spindle speed : 15,900min^{-1} Feed rate : 9,550mm/min Depth of cut : 2.0mm	**Ra=0.07μm Rz=0.32μm**	**Within 1μm**	**320**	**Mirror finish is achieved.**
Machine tool bed FC250 	Cutting speed : 1,500m/min Spindle speed : 6,000min^{-1} Feed rate : 3,600mm/min Depth of cut : 0.5mm	**Ra=0.12μm Rz=0.67μm**	**Within 2μm**	**20**	**1 to 2μm flatness is obtained.**

Quick adjustment of cutting edge height within 1μm! Excellent surface finish with high efficiency!

Speed Finisher body

Model description

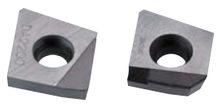
FM 22 - PLS 50 5 - 35
- 35: L-dimension
- 5: No. of insert
- 50: Cutter dia.
- PLS: Speed Finisher
- 22: Spigot dia.
- FM: Face mill arbor



Model	Diameter øD	øD1 DA2200	øD1 CBN	øD2	Φd	L	L1	L2	W	No. of insert	MAX min^{-1}	Weight (kg)
FM22-PLS505-35	50	46.9	44.9	47	22	35	19	6	10.4	5	20,000	0.4
FM22-PLS636-35	63	59.9	57.9	60	22	35	19	6	10.4	6		0.7
FM27-PLS806-40	80	76.9	74.9	76	27	40	22	7	12.4		16,000	1.2

1. Wrench and screws are included. Insert must be ordered separately.
2. When using at 12,000min-1 or higher speed, contact BIG agent for balancing of the cutter and arbor assembly.
3. Effective cutting edge length ap varies depending on insert models. Refer to the table for insert shown below.
4. Adjusting amount of cutting edge is 0.1mm. Note this when using reground insert.

Insert



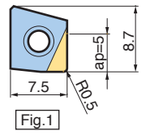


Fig.1

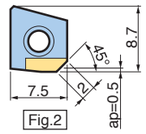


Fig.2

Insert model	Workpiece	Fig.	Material	Cutting edge length
PL0705 DA2200	Aluminum & nonferrous	1	Diamond	5.0
PL0705 CBN	Cast iron	2	CBN	0.5

1. Each insert is packed in a case. **[Order example] PL0705 DA2200 5pcs.**
2. Regrinding of the insert is possible only once (grinding amount 0.2mm).
   Early regrinding is recommended, as regrinding becomes unavailable in the case excessive wear or chipping occurs.

Insert grade

DA2200	CBN
High density sintered material made of ultra-micro diamond particles. Superior hardness comparable to carbide alloy and wear resistance.	Newly designed CBN sintered body with high content rate of CBN improves toughness and thermal conductivity.

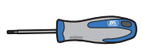
Recommended cutting conditions

Workpiece material		Insert material	Cutting speed (m/min)	Feed rate (mm/tooth)	Coolant
Aluminum alloy	Si content 13%≧	DA2200	2,000 – 4,000	0.05 – 0.2	Wet
	Si content 13%＜		400 – 800		
Copper alloy		DA2200	500 – 2,500	0.05 – 0.2	Wet
Gray cast iron		CBN	800 – 2,000	0.1 – 0.3	Dry

The table is a reference to determine cutting conditions. It should be adjusted according to cutting widht, conditions of the machine tool and workpiece.

Spare parts

Insert clamping screws and wrenches are consumables. Regular replacement and storage are recommended.

● Lifting screw set	● Insert clamping screw	● Wrench	● Anti-seizure lubricant
Lifting screw 1pce. / Lifting nut 1pce.	Screw 10pcs. Wrench 1pce. 		 5g included
Model	Model	Model	Model
LSN35	**S2506DS**	**DA-T8**	**BN-5**