

CUTTING TOOLS

- ENDMILLING J1
- MILLING J21
- CHAMFERING..... J27
- BACK SPOT FACING J44

Evolved rigidity realizes both heavy and stable ramping.

- Integral design with a taper shank and dual face contact of BIG-PLUS and HSK provide the highest rigidity.

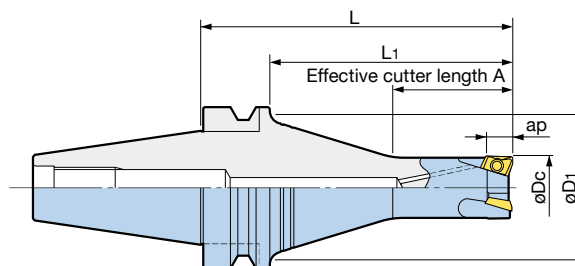
BBT Integrated Type

[Standard Type]



● Model Description

- BBT30 - FCR 16 08 2 - 65**
- BBT30: BIG-PLUS BT No.
 - FCR: FCR Type
 - 16: Cutter diameter ϕD_c
 - 08: Effective cutting edge length a_p
 - 2: Number of inserts
 - 65: L dimension



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	BBT30-FCR16082- 65	8	40	65	43	28	2	BRG1608□□	0.47
20	-FCR20083- 65			65	43	28	3	BRG2008□□	0.49
25	-FCR25083- 65			65	43	33		BRG2508□□	0.52
	-105 NEW	10	42	105	83	35		BRG3210□□	0.73
32	-FCR32103- 65		40	65	43	40			0.56
	-105 NEW		42	105	83	45			0.83
16	BBT40-FCR16082- 85	8	60	85	58	25	2	BRG1608□□	1.2
	-120			120	93	30	3	BRG2008□□	1.5
	-135			135	108	25			1.6
20	-FCR20083- 85	8	60	85	58	35			1.2
	-120			120	93	30			1.5
	-135			135	108	30			1.6
25	-FCR25083- 85	8	60	85	58	40	3	BRG2508□□	1.2
	-120			120	93	45			1.5
	-135			135	108	35			1.7
32	-FCR32103- 85	10	60	85	58	45	3	BRG3210□□	1.3
	-120			120	93	50			1.6
	-135			135	108	40			1.8

1. Wrench included. Inserts must be ordered separately.

Inserts **J6**

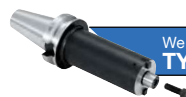
Cutting conditions **J7**

Arbor Type

Slotting

Shoulder milling

- Compatible with the new-standard Face Mill Arbor type H. Exhibits incredible cutting capacity even with #40 machining centers or millturn machines.



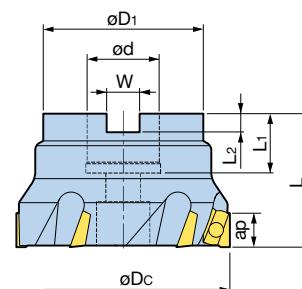
We recommend the **BIG** FACE MILL ARBOR TYPE H for holders.



● Model Description

FMH 22 - FCM 50 11 5 - 40

- FACE MILL ARBOR Type (H Type)
- Mounting part bore
- FCM Type
- Effective cutting edge length ap
- Number of inserts
- Cutter diameter ϕD_c
- L dimension



Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕd	ϕD_1	L	L ₁	L ₂	W	Number of inserts	Insert Model	Weight (kg)
50	FMH22-FCM 50115-40	11	22	47	40	20	6	10.4	5	ARG4011□□	0.5
63	-FCM 63116-40								6	ARG6311□□	0.7
80	FMH27-FCM 80116-50		27	60	50	22	7	12.4	6	ARG8011□□	1.2
100	-FCM100116-50			76							2.0

1. A wrench and screws are included. Inserts must be ordered separately.

2. The □□ at the end of the Insert Model is the nose radius. Order them putting 02 for 0.2, 04 for 0.4 and 08 for 0.8 nose radius.

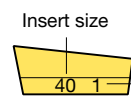
Insert

● Model Description

ARG40 11 04 ACP300

- Effective cutting edge length
- Nose Radius
- Grade

Insert Marking Description



1: ACZ310
2: DS20
P2: ACP200
P3: ACP300
3F: ACM300F

Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert Grade				
				ACP300 (for steel)	ACP200 (for pre-hardened steel)	ACM300F (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
$\phi 50$	ARG401102	11	0.2	○	—	○	○	○
	ARG401104	11	0.4	○	○	○	○	○
$\phi 63$	ARG631104	11	0.4	○	—	○	—	○
	ARG631108	11	0.8	○	○	○	○	○
$\phi 80, \phi 100$	ARG801104	11	0.4	○	—	○	—	○
	ARG801108	11	0.8	○	○	○	○	○

1. Inserts are available in packets of 10 pcs.

Please specify the insert model number and grade when ordering.

**Caution.**

- Be sure to purchase an insert suited to the cutter diameter, as the use of a non-compatible insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCR Type.
- Insert with nose radius 0.2 is for light cutting.

Insert Grade Description

ACP300	ACP200	ACM300F	ACZ310
Material for general steel, with a PVD multilayer coating on an ultra-tough substrate. Excellent chipping and thermal fracture resistance allows interrupted cutting as well.	With multilayers of nano-order TiAlN and AlCrN on a high-hardness base, it has superior wear resistance in pre-hardened steel machining.	Uses a new coating with improved smoothness and adhesiveness on a newly developed ultrahard carbide substrate. Excellent welding and chipping resistance, and capable of stable stainless steel machining.	Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.

DS20

Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

Both ACP300 and ACP200 can be used for steel machining

ACP200 has excellent wear resistance, while ACP300 has superb chipping resistance. For steel machining, we recommend ACP300 the most highly. ACP300 provides stable machining, but for even higher speeds or when wear resistance is required, use ACP200. Note that ACP200 is not recommended for heavy interrupted cutting or heavy cutting.

CHAMFERING TOOL C-CUTTER

Covers wide range of chamfering diameters and reduces the number of tools and ATC required.

- With design exclusive for chamfering, the insert has a large rake angle and produces clean chamfering surface.
- Wide machining range reduces the number of tools in the magazine and is especially effective for reducing ATC time loss.

Cylindrical Shank

[30°/45°/60° Type]



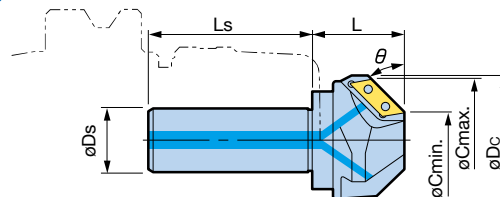
We recommend the **BIG** NEW BABY CHUCK for chucking.



We recommend the **BIG** NEW HI-POWER MILLING CHUCK for chucking.



Center through



Model Description

ST32 - C 16 52 C - 30

- Chamfering angle (Blank for 45°)
- Center through
- Max. chamfering diameter
- Min. bore
- C-CUTTER
- Shank type

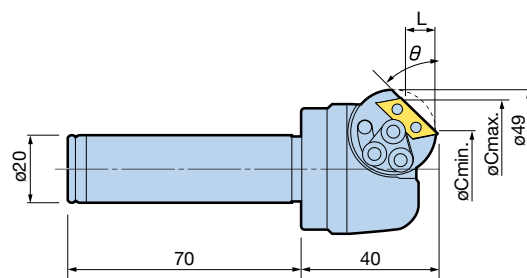
Chamfering angle θ	Model	ϕD_s	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	Outer diameter ϕD_c	L	Ls	Number of inserts	Applicable Insert
30°	ST32-C1652C-30	32	16	52	68	48	80	2	CW1909A
	ST42-C5085C-30	42	50	85	96	52	80	3	
45°	ST20-C0525C	20	5	25	33	25	60	1	CW1206A
	ST25-C1040C	25	10	40	45	35	70	2	CW1909A
	ST32-C3060C	32	30	60	65	45	80	3	
	ST42-C50100C	42	50	100	106	70	80	3	CW3115A
60°	ST25-C1434C-60	25	14	34	38	37	70	2	CW1909A
	ST32-C3050C-60	32	30	50	54	45	80	3	
	ST32-C4565C-60	32	45	65	69	50	80	3	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

Inserts **J28**

[Universal Type]

Handles chamfering angles from 5° to 85°.



Model **ST20-C5/85A-40**

Compatible insert: **CW1206A**

Inserts **J28**

Model Description

ST20 - C 5 / 85 A - 40

- Chamfering angle adjustment amount
- C-CUTTER
- Shank type

[Chamfering Range]

Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L	Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L
5°	5.5	33.5	1.2	50°	24.0	42.2	10.8
10°	7.3	34.7	2.4	55°	26.4	42.4	11.4
15°	9.0	36.2	3.6	60°	28.5	42.5	12.1
20°	11.2	37.4	4.7	65°	30.7	42.4	12.5
25°	13.0	38.6	5.9	70°	32.9	42.1	12.6
30°	15.2	39.6	7.0	75°	34.9	41.7	12.7
35°	17.4	40.5	8.0	80°	36.9	41.1	11.9
40°	19.6	41.2	9.0	85°	38.8	40.3	8.6
45°	21.8	41.8	10.0				

Chamfering range and L are reference only.
Measure accurate values with a presetter.



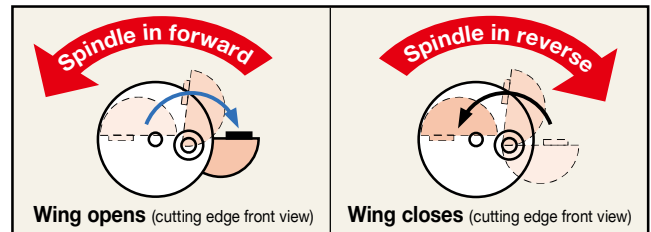
Modular C-Cutter CKB Shanks are also available. **A83**

Hole diameter: $\varnothing 4.5 - \varnothing 9$ **AUTOMATIC BACK SPOT FACER**

The simplest mechanism achieves automatic back spot facing in machining centers.

- Only forward/reverse rotation of the machine spindle makes back spot facing and back chamfering possible.
- Abundant varieties and unique opening/closing method make it ideal for cast iron and aluminum machining.

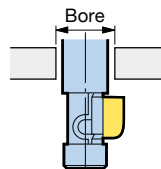
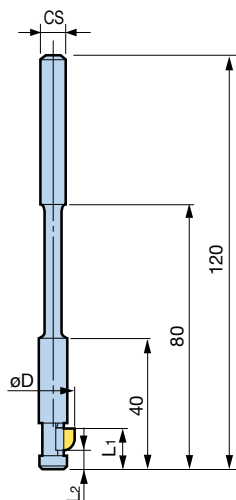
● Automatic opening and closing system



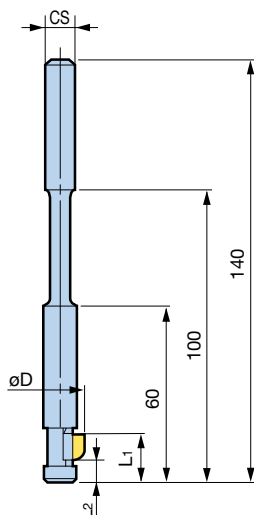
● Reliable cooling through oil hole
(Hole diameter $\varnothing 10 - \varnothing 30$)

Reliable lubrication and air supply to the cutting edge reduce the problems caused by chips to extend tool life.

[Standard back spot facing series]



Hole diameter	Spot facing diameter $\varnothing D$	Spindle	Wing	Insert	L ₁	L ₂	CS
4.5	8	27-4.5-CS6	37-011	HSS	11	5	6
5.5	9	27-5.5-CS6	37-011	HSS	11	5	6
	10		-012				
	10.5		-013				
	11		-014				
6.5	9.5	27-6.5-CS6	37-011	HSS	11	5	6
	10.5		-012				
	11		-013				
	11.5		-014				
	13		-015				



7	11.8	27-7-CS8	37-021	HSS	15	5	8
	13.8		-022				
	14.4		-023				
8.4	13	27-8.4-CS8	37-021	HSS	15	5	8
	15		-022				
	15.6		-023				
	17		-024				
9	13.4	27-9-CS8	37-021	HSS	15	5	8
	15		-020-0480				
	15.4		-022				
	16		-023				
	17.4		-024				
	18		-025				
	19.6		-020-0710				

1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
3. Use a NEW BABY CHUCK or NEW Hi-POWER MILLING CHUCK for chucking.