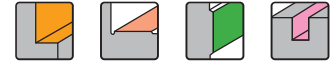
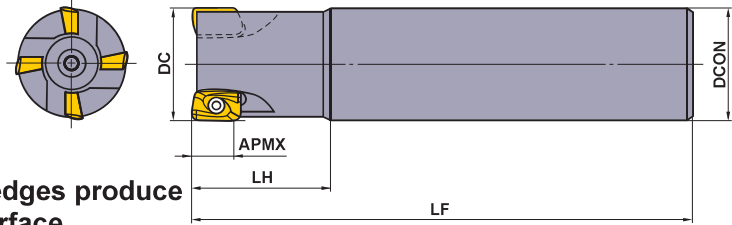


# SHOULDER MILLING



## BAP300

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-ferrous Metal	Heat Resistant Alloy	Hardened Steel



- 11° positive insert.
- Inserts with wiper edges produce optimal finished surface.
- Multi insert design for high feed machining.

### SHANK TYPE

Right hand tool holder only.

Type	Order Number	Stock	Number of Teeth	Dimensions(mm)					* Clamp Screw	Wrench	Insert
				DC	LF	DCON	LH	APMX			
Standard	BAP300R101S16	●	1	10	85	16	25	9	TS25	TKY08F	APG/MT1135PD $\odot$ R $\odot$
	BAP300R121S16	●	1	12	85	16	25	9	TS25	TKY08F	
	BAP300R141S16	●	1	14	85	16	25	9	TS25	TKY08F	
	BAP300R162S16	●	2	16	85	16	25	9	TS25	TKY08F	
	BAP300R182S16	●	2	18	85	16	25	9	TS25	TKY08F	
	BAP300R203S20	●	3	20	100	20	30	9	TS25	TKY08F	
	BAP300R223S20	●	3	22	100	20	30	9	TS25	TKY08F	
	BAP300R254S25	●	4	25	115	25	35	9	TS25	TKY08F	
	BAP300R284S25	●	4	28	115	25	35	9	TS25	TKY08F	
	BAP300R304S32	●	4	30	125	32	45	9	TS25	TKY08F	
	BAP300R325S32	●	5	32	125	32	45	9	TS25	TKY08F	
	BAP300R406S32	●	6	40	125	32	45	9	TS25	TKY08F	
	BAP300R507S32	●	7	50	125	32	45	9	TS25	TKY08F	
	BAP300R638S32	●	8	63	125	32	45	9	TS25	TKY08F	
Long	BAP300R202LS20	●	2	20	150	20	60	9	TS25	TKY08F	APG/MT1135PD $\odot$ R $\odot$
	BAP300R253LS25	●	3	25	170	25	70	9	TS25	TKY08F	
	BAP300R323LS32	●	3	32	190	32	90	9	TS25	TKY08F	
	BAP300R403LS32	●	3	40	190	32	90	9	TS25	TKY08F	

\* Clamp Torque (N · m) : TS25=1.0

MILLING

# INDEXABLE MILLING

## INSERTS

Work Material	P	Steel	●	●								Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✦ : Unstable Cutting				
	M	Stainless Steel	●	●												
Work Material	K	Cast Iron	✦	✦								Honing : E : Round F : Sharp				
	N	Non-ferrous Metal														
Work Material	S	Heat-resistant Alloy, Titanium Alloy														
	H	Hardened Steel														
Shape	Order Number	Class	Honing	Coated			Cermet		Carbide	Dimensions(mm)					Geometry	
				F7030	VP15TF		NX2525	NX4545	HTi10	L	W1	S	BS	RE		
	APMT1135PDER-H1	M	E	●	●			●	●	●	11	6.35	3.5	1.5	0.4	
	APMT1135PDER-H2	M	E	●	●			●	●	●	11	6.35	3.5	1.2	0.8	
	APMT1135PDER-H3	M	E	●							11	6.35	3.5	0.8	1.2	
	APMT1135PDER-H4	M	E	●							11	6.35	3.5	0.4	1.6	
	APMT1135PDER-H6	M	E	●							11	6.35	3.5	0.4	2.4	
	APMT1135PDER-M0	M	E	●							11	6.35	3.5	1.8	0.2	
	APMT1135PDER-M1	M	E	●							11	6.35	3.5	1.5	0.4	
	APMT1135PDER-M2	M	E	●	●				●		11	6.35	3.5	1.2	0.8	
	APGT1135PDRF-G2	G	F						●		11	6.35	3.5	1.2	0.8	

## RECOMMENDED CUTTING CONDITIONS

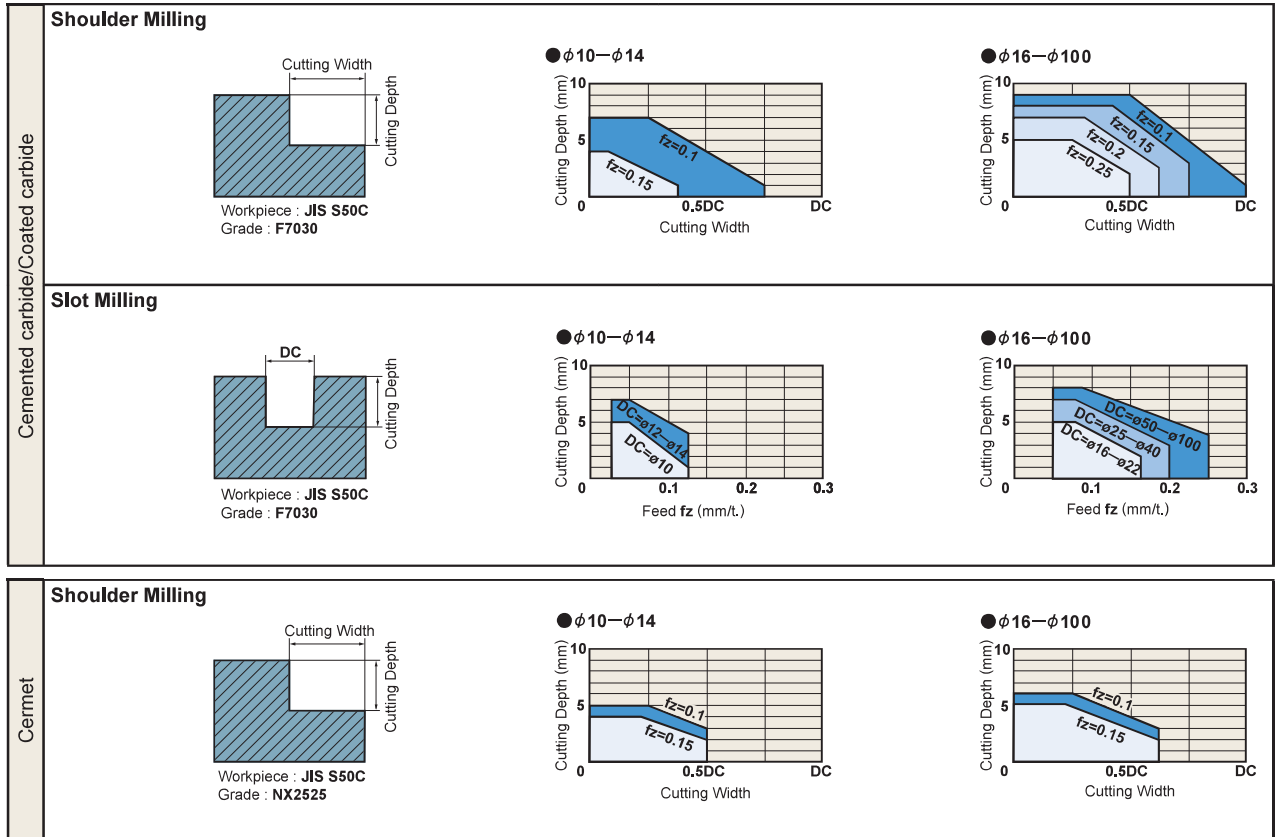
Work Material	Hardness	Grade	Breaker	Cutting Mode	Cutting Speed (m/min)	Feed per Tooth (mm/t.)	
P Mild Steel	≤180HB	NX4545	H	Finish Cutting	160 (120—180)	0.1 (0.05—0.15)	
		F7030	M	General Cutting	180 (150—200)	0.15 (0.1—0.2)	
	Carbon Steel Alloy Steel	180—280HB	NX4545	H	Finish Cutting	120 (100—160)	0.08 (0.05—0.1)
			F7030	M	General Cutting	150 (120—200)	0.15 (0.1—0.2)
		280—350HB	F7030	H	Unstable Cutting	120 (100—160)	0.15 (0.1—0.2)
			NX4545	H	Finish Cutting	100 (80—120)	0.08 (0.05—0.1)
M Stainless Steel	≤200HB	F7030	M	General Cutting	140 (120—160)	0.15 (0.1—0.2)	
		F7030	H	Unstable Cutting	120 (80—140)	0.2 (0.1—0.25)	
K Gray Cast Iron	Tensile Strength ≤350MPa	VP15TF	M	General Cutting	140 (120—160)	0.15 (0.1—0.2)	
		HTi10	H	General Cutting	120 (100—140)	0.2 (0.1—0.25)	
	Tensile Strength ≤450MPa	VP15TF	M	General Cutting	120 (100—140)	0.15 (0.1—0.2)	
		HTi10	H	General Cutting	100 (80—120)	0.2 (0.1—0.25)	
Ductile Cast Iron (≥JIS FCD500)	Tensile Strength 500—800MPa	VP15TF	M	General Cutting	100 (80—120)	0.1 (0.05—0.15)	
		HTi10	H	General Cutting	80 (60—100)	0.15 (0.1—0.2)	
N Aluminium Alloy	—	HTi10	G	General Cutting	500 (200—1000)	0.2 (0.1—0.3)	
S Ti Alloy	≥350HB	HTi10	G	General Cutting	40 (30—60)	0.2 (0.1—0.3)	
	—	F7030	M	General Cutting	30 (20—40)	0.15 (0.1—0.2)	
H Hardened Steel	≥40HRC	VP15TF	M	General Cutting	70 (50—100)	0.1 (0.05—0.15)	

● Revolution (min<sup>-1</sup>)=(1000 x Cutting Speed)÷(3.14 x DC)

● Table Feed (mm/min)=Feed per Tooth x Number of Teeth x Cutter Revolution

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products.

## CUTTING PERFORMANCE



(Note 1) In each of the above graphs cutting performance is shown for carbon steel (JIS S50C).

In case of alloy steels, reduce the conditions by 20—30%.

(Note 2) In the case of deep slot milling, air blow should be used.

(Note 3) The diameter "DC" is taken from the tools peripheral cutting edge.

# INDEXABLE MILLING

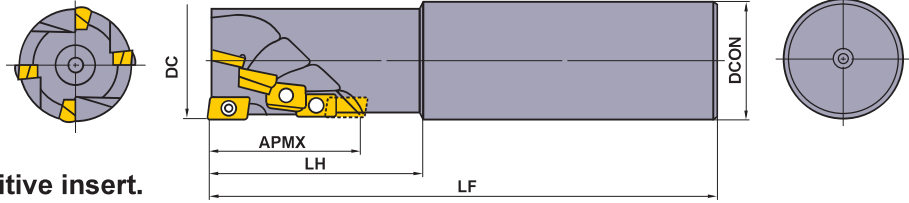
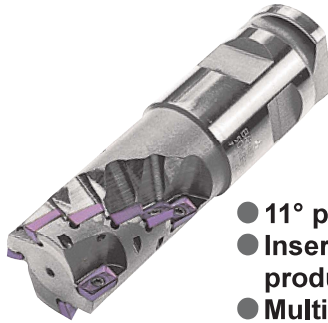
## DEEP SHOULDER MILLING



### BAP300

LONG CUTTING EDGE

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-ferrous Metal	Heat Resistant Alloy	Hardened Steel



- 11° positive insert.
- Inserts with wiper edges produce optimal finished surface.
- Multi insert design for high feed machining.

### SHANK TYPE

Right hand tool holder only.

Order Number	Stock	Number of Flutes	Total	Dimensions(mm)					* Clamp Screw	Wrench	Insert
				DC	LF	DCON	LH	APMX			
BAP300R2004ES20	●	1	4	20	120	20	40	25	TS25	TKY08F	APG/MT1135 PDOR-M0/1/2
BAP300R2508ES25	●	2	8	25	130	25	50	34	TS25	TKY08F	
BAP300R3212ES32	●	2	12	32	140	32	60	43	TS25	TKY08F	
BAP300R4014ES42	●	2	14	40	150	42	70	51	TS25	TKY08F	

\* Clamp Torque (N · m) : TS25=1.0

### INSERTS

Shape	Order Number	Class	Honing	Coated			Cermet	Carbide	Dimensions(mm)					Geometry	
				F7030	VP15TF		NX2525	NX4545	HT110	L	W1	S	BS		RE
	APMT1135PDER-H1	M	E	●	●		●	●	●	11	6.35	3.5	1.5	0.4	
	APMT1135PDER-H2	M	E	●	●		●	●	●	11	6.35	3.5	1.2	0.8	
	APMT1135PDER-M0	M	E	●						11	6.35	3.5	1.8	0.2	
	APMT1135PDER-M1	M	E	●						11	6.35	3.5	1.5	0.4	
	APMT1135PDER-M2	M	E	●	●			●			11	6.35	3.5	1.2	
	APGT1135PDFR-G2	G	F						●	11	6.35	3.5	1.2	0.8	

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products.  
(10 inserts in one case)

## RECOMMENDED CUTTING CONDITIONS

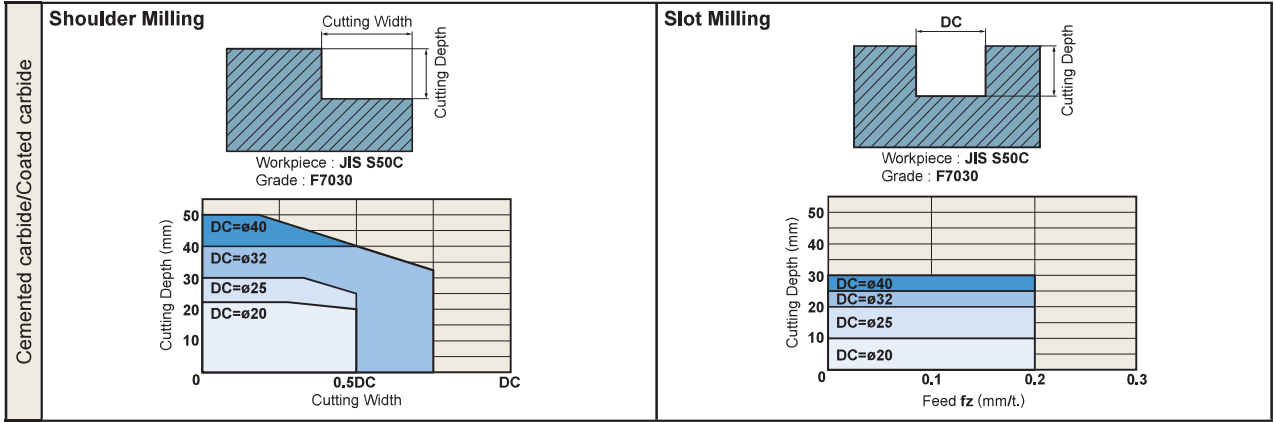
	Work Material	Hardness	Grade	Breaker	Cutting Mode	Cutting Speed (m/min)	Feed per Tooth (mm/t.)
P	Mild Steel	≤180HB	F7030	M	General Cutting	180 (150—200)	0.15 (0.08—0.2)
	Carbon Steel Alloy Steel	180—280HB	F7030	M	General Cutting	150 (120—280)	0.15 (0.08—0.2)
			F7030	H	Unstable Cutting	120 (100—160)	0.2 (0.1—0.25)
		280—350HB	F7030	M	General Cutting	140 (120—160)	0.1 (0.05—0.15)
			F7030	H	Unstable Cutting	100 (80—120)	0.15 (0.08—0.2)
M	Stainless Steel	≤200HB	F7030	M	General Cutting	140 (120—160)	0.1 (0.08—0.15)
			F7030	H	Unstable Cutting	120 (80—140)	0.15 (0.08—0.2)
K	Gray Cast Iron	Tensile Strength ≤350MPa	VP15TF	M	General Cutting	140 (120—160)	0.15 (0.08—0.2)
			HTi10	H	General Cutting	120 (100—140)	0.1 (0.05—0.15)
	Ductile Cast Iron	Tensile Strength ≤450MPa	VP15TF	M	General Cutting	120 (100—140)	0.1 (0.05—0.15)
			UTi20T	H	General Cutting	100 (80—120)	0.15 (0.08—0.2)
	Ductile Cast Iron	Tensile Strength 500—800MPa	VP15TF	M	General Cutting	100 (80—120)	0.08 (0.05—0.1)
			HTi10	H	General Cutting	80 (60—100)	0.1 (0.05—0.15)
N	Aluminium Alloy	—	HTi10	G	General Cutting	500 (200—1000)	0.15 (0.05—0.25)
S	Ti Alloy	≥350HB	HTi10	G	General Cutting	40 (30—60)	0.15 (0.05—0.25)
	Heat Resistant Alloy	—	F7030	M	General Cutting	30 (20—40)	0.1 (0.05—0.15)
H	Hardened Steel	≥40HRC	VP15TF	M	General Cutting	70 (50—100)	0.08 (0.05—0.1)

● Revolution (min<sup>-1</sup>)=(1000 x Cutting Speed)÷(3.14 x DC)

● Table Feed (mm/min)=Feed per Tooth x Number of Teeth x Cutter Revolution

# INDEXABLE MILLING

## CUTTING PERFORMANCE



(Note 1) In each of the above graphs cutting performance is shown for carbon steel (JIS S50C).

In case of alloy steels, reduce the conditions by 20—30%.

(Note 2) In the case of deep slot milling, air blow should be used.

(Note 3) The diameter "DC" is taken from the tools peripheral cutting edge.