

## Indexable Milling Tools

### ABPF | Ball High Precision Finish - Carbide Shank

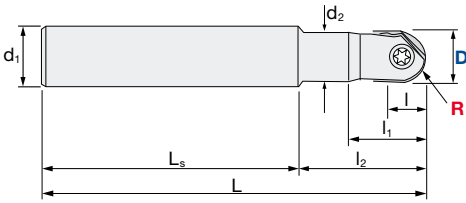
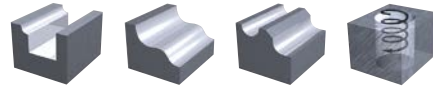
**V max**  
High Speed

**▽▽**  
Semi Finishing

**▽▽▽**  
Finishing

**HRC**  
65

**No. of Teeth**  
2



Tolerance R:	Tolerance Dia.:
± 0.005 mm	± 0.01 mm

#### ABPF-W Ball High Precision Finish - Carbide Shank Regular

ID Code	Item Code	Flutes	D	R	L	l	l <sub>1</sub>	l <sub>2</sub>	L <sub>s</sub>	d <sub>1</sub>	d <sub>2</sub>	Inserts
FH393	ABPF-08S08W	2	8	4	100	4.4	18	30	70	8	7.8	Z...FG-080...
FH394	ABPF-10S10W		10	5		5.5	23	35	65	10	9.8	Z...FG-100...
FH395	ABPF-12S12W		12	6		6.6	26	45	65	12	11.8	Z...FG-120...
FH478	ABPF-16S16W		16	8		8.8	19	35	105	16	15.5	Z...FG-160...
FH479	ABPF-20S20W		20	10		11	22	40	120	20	19.5	Z...FG-200...
FH480	ABPF-25S25W		25	12.5		13.7	25	45	135	25	24.5	Z...FG-250...



#### ABPF-WL Ball High Precision Finish - Carbide Shank Long Neck

ID Code	Item Code	Flutes	D	R	L	l	l <sub>1</sub>	l <sub>2</sub>	L <sub>s</sub>	d <sub>1</sub>	d <sub>2</sub>	Inserts
FH396	ABPF-08S08WL	2	8	4	130	4.4	18	65	65	8	7.8	Z...FG-080...
FH397	ABPF-10S10WL		10	5	140	5.5	23	75		10	9.8	Z...FG-100...
FH398	ABPF-12S12WL		12	6	150	6.6	26	85		12	11.8	Z...FG-120...



#### ABPF-WE Ball High Precision Finish - Carbide Shank Extra Long

ID Code	Item Code	Flutes	D	R	L	l	l <sub>1</sub>	l <sub>2</sub>	L <sub>s</sub>	d <sub>1</sub>	d <sub>2</sub>	Inserts
FH458	ABPF-16S16WE	2	16	8	200	8.8	19	120	80	16	15.8	Z...FG-160...
FH459	ABPF-20S20WE		20	10	250	11	22	150	100	20	19.8	Z...FG-200...
FH460	ABPF-25S25WE		25	12.5	300	13.7	25	190	110	25	24.8	Z...FG-250...



Inserts p. 7

**Indexable Milling Tools | Grades Overview**

**INSERTS | Ball High Precision Finish**

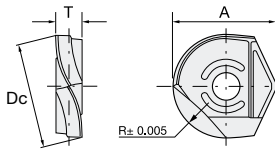


Fig. 1: ZPFG

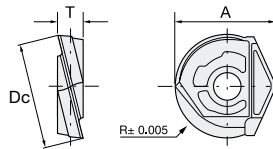


Fig. 2: ZDFG

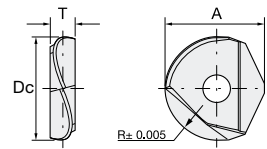
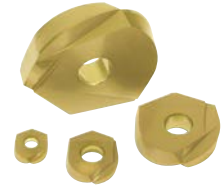


Fig. 3: ZDFG-SF



Item Code	Size				Grade					Shape		
	Dc	R	A	T	ATH10E	ACS05E	PCA12M	PCA08M	PTH08M		ATH80D	
ZPFG-080	8	4	9.7	2.1			WF547	WF594	WF645			
ZPFG-080-GH												WF267
ZPFG-080-GF						WF266						
ZPFG-100	10	5	12.1	2.7			WF548	WF595	WF646			
ZPFG-100-GH											WF269	
ZPFG-100-GF						WF268						
ZPFG-120	12	6	14.6	3.2			WF549	WF596	WF647			
ZPFG-120-GH											WF271	
ZPFG-120-GF						WF270						
ZPFG-160	16	8	16.6	4.2			WF598	WF597	WF648			
ZPFG-160-GH											WF273	
ZPFG-160-GF						WF272						
ZPFG-200	20	10	20.3	5.2			WF600	WF599	WF649			
ZPFG-200-GH											WF275	
ZPFG-200-GF						WF274						
ZPFG-250	25	12.5	24.1	6.2			WF602	WF601	WF650			
ZPFG-250-GH											WF277	
ZPFG-250-GF						WF276						
ZPFG-320	32	16	30	7.2			WF604	WF603	WF651			
ZPFG-320-GH											WF279	
ZPFG-320-GF						WF278						
ZDFG-080-WH	8	4	9.7	2.1						WF281		
ZDFG-080-WF						WF280						
ZDFG-100-WH					10	5	12.1	2.7				
ZDFG-100-WF		WF282										
ZDFG-120-WH	12	6	14.6	3.2								
ZDFG-120-WF						WF284						
ZDFG-160-WH					16	8	16.6	4.2				
ZDFG-160-WF		WF168										
ZDFG-200-WH	20	10	20.3	5.2								
ZDFG-200-WF						WF169						
ZDFG-250-WH					25	12.5	24.1	6.2				
ZDFG-250-WF		WF170										
ZDFG-320-WH	32	16	30	7.2								
ZDFG-320-WF						WF171						
ZDFG-160-SF					16	8	16.6	4.2	WF263			
ZDFG-200-SF	20	10	20.3	5.2	WF264							
ZDFG-250-SF	25	12.5	24.1	6.2	WF265							

