

TANK-POWER

The Next Generation
of Powdered Metal End Mills

HIGHER EDGE STRENGTH / HIGHER FEED RATES

更坚硬的刃端/更强的铣削





TANK-POWER END MILLS

SELECTION GUIDE

***TANK-POWER End Mills are #1 Choice.
Powerful Milling!! High Productivity!!***

EP931



2 FLUTE, REGULAR LENGTH
2刃, 普通长度

E 210

EP932



4 FLUTE, REGULAR LENGTH
4刃, 普通长度

E 212

EP933



2 FLUTE, REGULAR LENGTH, BALL NOSE
2刃, 普通长度, 球头

E 214

EP941



MULTI FLUTE, SHORT LENGTH, FINE PITCH, ROUGHING
多刃, 短, 小螺距, 螺纹铣刀

E 216

EPA33



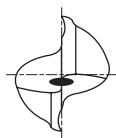
MULTI FLUTE, SHORT LENGTH, COARSE PITCH, ROUGHING
多刃, 短, 大螺距, 螺纹铣刀

E 217

TANK-POWER

2 FLUTE, REGULAR LENGTH

2刃, 普通长度



- Two-Flute design for slotting.
2刃为铣槽设计.
- Suitable for high speed cutting of difficult - to - cut materials, stainless steel, titanium, exotic materials.
适于切削难加工材料, 不锈钢, 钛等特殊材料
- YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
YG-1新开发的TANK-POWER涂层适于高速切削.

● PLAIN SHANK

● EP931 Series

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER h6	LENGTH OF CUT	OVERALL LENGTH
EP931010	1.0	6	2.5	55
EP931020	2.0	6	6	55
EP931030	3.0	6	10	55
EP931040	4.0	8	12	60
EP931050	5.0	8	15	65
EP931060	6.0	8	15	65
EP931070	7.0	10	20	75
EP931080	8.0	10	20	75
EP931090	9.0	10	25	80
EP931100	10.0	10	25	80
EP931120	12.0	12	30	90
EP931140	14.0	12	35	95
EP931160	16.0	16	40	105
EP931180	18.0	16	40	105
EP931200	20.0	20	45	115
EP931220	22.0	20	45	115
EP931250	25.0	25	50	125

MILL DIA. TOLERANCE(mm)	SHANK DIA. TOLERANCE
0 0.03	h6

● EP931

MATERIAL	Structural Steels, Carbon Steels		Structural Steels, Carbon Steels, Cast Irons		Carbon Steels, Alloy Steels, Tool Steels		Prehardened Steels, Alloy Steels, Tool Steels		Alloy Steels, Tool Steels Austenitic Stainless Steels	
HARDNESS			~HRC20		HRC20~HRC30		HRC30~HRC35		HRC35~HRC40	
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1100N/mm ²		1100~1300N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2	6700	100	5600	80	4700	85	3000	55	1900	35
3	4700	140	3900	120	3200	100	2200	70	1700	55
4	4100	200	3400	155	3000	140	1900	80	1500	65
5	3700	220	3100	175	2500	160	1600	90	1300	65
6	3300	230	2750	185	2200	165	1400	95	1100	75
8	2500	240	2100	210	1700	175	1100	100	850	75
10	2000	260	1700	230	1400	200	850	110	670	90
12	1700	240	1400	210	1100	180	700	100	550	75
14	1500	230	1200	200	950	170	600	95	480	70
16	1300	230	1100	185	850	155	530	90	420	70
18	1100	210	900	170	750	140	480	85	380	65
20	900	190	750	145	670	130	420	80	340	60
22	800	160	680	130	570	110	380	70	300	50
25	720	135	600	120	470	100	340	65	240	45



RPM=REVOLUTION PER MIN.
Feed=mm / min



► Recommended for pocketing, tracer milling, cam milling, die sinking and slotting.
推荐用于铣型腔, 雕刻, 凸轮加工, 模具凹槽.

► Designed for high speed cutting of difficult - to - cut materials, stainless steels, titanium, exotic materials.
设计用于高速切削难加工材料, 不锈钢, 钛, 特殊材料.

► YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
YG-1新开发的TANK-POWER涂层适于高速切削.

● PLAIN SHANK

● EP932 Series

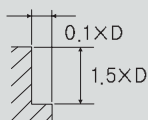
Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER h6	LENGTH OF CUT	OVERALL LENGTH
EP932010	1.0	6	2.5	55
EP932020	2.0	6	6	55
EP932030	3.0	6	10	55
EP932040	4.0	8	12	60
EP932050	5.0	8	15	65
EP932060	6.0	8	15	65
EP932070	7.0	10	20	75
EP932080	8.0	10	20	75
EP932090	9.0	10	25	80
EP932100	10.0	10	25	80
EP932120	12.0	12	30	90
EP932140	14.0	12	35	95
EP932160	16.0	16	40	105
EP932180	18.0	16	40	105
EP932200	20.0	20	45	115
EP932220	22.0	20	45	115
EP932250	25.0	25	50	125

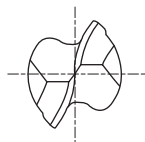
MILL DIA. TOLERANCE(mm)	SHANK DIA. TOLERANCE
+ 0.03 0	h6

● EP932

MATERIAL	Structural Steels, Carbon Steels		Structural Steels, Carbon Steels, Cast Irons		Carbon Steels, Alloy Steels, Tool Steels		Prehardened Steels, Alloy Steels, Tool Steels		Alloy Steels, Tool Steels Austenitic Stainless Steels	
HARDNESS			~HRC20		HRC20~HRC30		HRC30~HRC35		HRC35~HRC40	
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1100N/mm ²		1100~1300N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2	8800	250	8000	210	5800	150	3900	110	3200	75
3	6300	360	5700	300	4200	220	2800	155	2300	110
4	5000	420	4500	350	3400	260	2200	175	1900	130
5	4200	440	3800	370	2800	275	1900	190	1600	140
6	3700	470	3400	390	2500	285	1700	200	1400	155
8	3000	500	2500	420	1900	320	1300	210	1100	160
10	2200	550	2000	460	1500	330	1000	230	850	175
12	1900	500	1700	420	1300	320	850	210	690	160
14	1700	480	1500	400	1100	300	750	200	600	150
16	1550	440	1300	370	950	290	650	190	520	145
18	1400	400	1200	350	850	270	600	170	480	130
20	1200	380	1000	320	750	240	500	155	420	120
22	1000	360	900	280	650	220	450	140	380	115
25	950	320	800	265	600	200	400	130	340	110



RPM=REVOLUTION PER MIN.
Feed=mm / min



► Excellent performance on wide materials from carbon steels and stainless steels to aluminum.
推荐用于铣型腔, 雕刻, 凸轮加工, 模具凹槽.

► Designed for milling of radius bottom slots, fillets and special contours.
设计用于加工圆底沟槽, 侧面铣和仿形铣.

► YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
YG-1新开发的TANK-POWER涂层适于高速切削.

● PLAIN SHANK

● EP933 Series

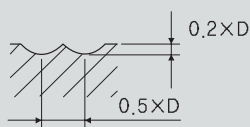
Unit : mm

EDP No.	R ± 0.02	MILL DIAMETER	SHANK DIAMETER h6	LENGTH OF CUT	OVERALL LENGTH
EP933010	R 0.5	1.0	6	2.5	50
EP933020	R 1.0	2.0	6	5	50
EP933030	R 1.5	3.0	6	8	60
EP933040	R 2.0	4.0	6	8	70
EP933050	R 2.5	5.0	6	10	80
EP933060	R 3.0	6.0	6	12	90
EP933070	R 3.5	7.0	8	14	90
EP933080	R 4.0	8.0	8	14	100
EP933090	R 4.5	9.0	10	18	100
EP933100	R 5.0	10.0	10	18	100
EP933120	R 6.0	12.0	12	22	110
EP933140	R 7.0	14.0	12	26	110
EP933160	R 8.0	16.0	16	30	140
EP933180	R 9.0	18.0	16	34	140
EP933200	R 10.0	20.0	20	38	160
EP933220	R 11.0	22.0	20	45	170
EP933250	R 12.5	25.0	25	50	180

MILL DIA. TOLERANCE(mm)	SHANK DIA. TOLERANCE
0 0.03	h6

● EP933

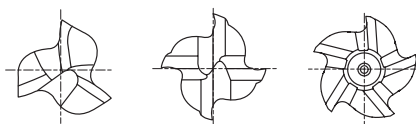
MATERIAL	STRUCTURAL STEELS CARBON STEELS		STRUCTURAL STEELS CARBON STEELS CAST IRONS		CARBON STEELS ALLOY STEELS TOOL STEELS		PREHARDENED STEELS ALLOY STEELS TOOL STEELS	
HARDNESS			~HRC20		HRC20~HRC35		HRC30~HRC40	
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.5× 3.0	7000	300	5500	200	3700	110	1900	50
R2.0× 4.0	5700	370	4400	250	2900	140	1500	65
R3.0× 6.0	4200	420	3300	280	2200	155	1150	75
R4.0× 8.0	3200	460	2500	310	1700	175	850	75
R5.0×10.0	2600	520	2000	350	1350	200	650	90
R6.0×12.0	2200	460	1700	310	1150	175	550	75
R8.0×16.0	1600	420	1250	280	850	155	420	70
R10.0×20.0	1300	360	1000	240	650	130	340	60
R12.5×25.0	900	270	700	180	450	100	240	45



RPM=REVOLUTION PER MIN.
Feed=mm / min



p.E218



- Suitable for high-feed roughing milling.
适于高速粗铣。
- Designed to machine carbon steel, alloyed steel, stainless steel.
设计用于加工碳钢, 合金钢和不锈钢。
- Providing excellent finished surface in many case.
在许多情况下可得到优良的表面粗糙度。
- YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
YG-1新开发的TANK-POWER涂层适于高速切削。
- up to $\phi 20$: center cut, over $\phi 20$: non center cut
 $\phi 20$ 以下 : 中心切削, $\phi 20$ 以上 : 不可中心切削

● FLAT SHANK

● EP941 Series

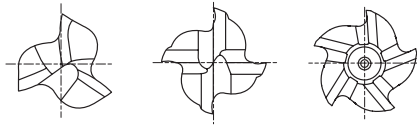
Unit : mm

EDP No.	MILL DIAMETER js12	SHANK DIAMETER h6	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTE
EP941060	6.0	6	13	57	3
EP941070	7.0	10	16	66	3
EP941080	8.0	10	19	69	3
EP941090	9.0	10	19	69	3
EP941100	10.0	10	22	72	4
EP941120	12.0	12	26	83	4
EP941140	14.0	12	26	83	4
EP941160	16.0	16	32	92	4
EP941180	18.0	16	32	92	4
EP941200	20.0	20	38	104	4
EP941220	22.0	20	38	104	5
EP941250	25.0	25	45	121	5

Tolerances according to DIN 7160 & 7161

Tolerance range in μm						
Nominal-Diameter in mm						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	$\begin{smallmatrix} 0 \\ - 6 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 8 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 9 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 11 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 13 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 16 \end{smallmatrix}$

 $\mu\text{m}=1/1000\text{mm}$



- Suitable for high-feed roughing milling.
适于高速粗铣.
- Designed to machine carbon steel, alloyed steel, stainless steel.
设计用于加工碳钢, 合金钢和不锈钢.
- YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
YG-1新开发的TANK-POWER涂层适于高速切削.
- up to $\phi 20$: center cut, over $\phi 20$: non center cut
 $\phi 20$ 以下 : 中心切削, $\phi 20$ 以上 : 不可中心切削

● FLAT SHANK

● EPA33 Series

Unit : mm

EDP No.	MILL DIAMETER js12	SHANK DIAMETER h6	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTE
EPA33060	6.0	6	13	57	3
EPA33070	7.0	10	16	66	3
EPA33080	8.0	10	19	69	3
EPA33090	9.0	10	19	69	3
EPA33100	10.0	10	22	72	4
EPA33120	12.0	12	26	83	4
EPA33140	14.0	12	26	83	4
EPA33160	16.0	16	32	92	4
EPA33180	18.0	16	32	92	4
EPA33200	20.0	20	38	104	4
EPA33220	22.0	20	38	104	5
EPA33250	25.0	25	45	121	5

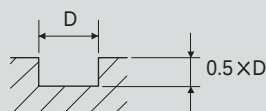
Tolerances according to DIN 7160 & 7161

Tolerance range in μm						
Nominal-Diameter in mm						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	$\begin{smallmatrix} 0 \\ - 6 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 8 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 9 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 11 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 13 \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ - 16 \end{smallmatrix}$

 $\mu\text{m} = 1/1000\text{mm}$

●EP941, EPA33

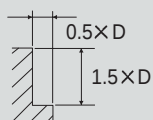
MATERIAL	STRUCTURAL STEELS CARBON STEELS		STRUCTURAL STEELS CARBON STEELS CAST IRONS		CARBON STEELS ALLOY STEELS TOOL STEELS		PREHARDENED STEELS ALLOY STEELS TOOL STEELS	
HARDNESS			HRC20		HRC20-HRC30		HRC30-HRC40	
STRENGTH	~ 500N/mm ²		500-800N/mm ²		800-1000N/mm ²		1000-1300N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	2700	150	2100	115	1500	75	1250	65
8	2300	185	1800	150	1300	405	1000	80
10	1800	270	1400	205	1000	125	850	105
12	1500	270	1150	215	850	150	700	115
14	1300	270	1000	215	720	150	600	115
16	1150	270	900	215	625	150	520	115
18	1000	270	850	215	580	150	470	115
20	920	275	720	215	500	150	420	115
22	850	275	620	215	450	150	380	115
25	750	270	570	205	400	140	340	115



RPM=REVOLUTION PER MIN.
Feed=mm / min

●EP941, EPA33

MATERIAL	STRUCTURAL STEELS CARBON STEELS		STRUCTURAL STEELS CARBON STEELS CAST IRONS		CARBON STEELS ALLOY STEELS TOOL STEELS		PREHARDENED STEELS ALLOY STEELS TOOL STEELS	
HARDNESS			HRC20		HRC20-HRC30		HRC30-HRC40	
STRENGTH	~ 500N/mm ²		500-800N/mm ²		800-1000N/mm ²		1000-1300N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	2700	200	2100	155	1500	100	1250	90
8	2300	250	1800	200	1300	140	1000	110
10	1800	360	1400	275	1000	170	850	140
12	1500	360	1150	290	850	200	700	155
14	1300	360	1000	290	720	200	600	155
16	1150	360	900	290	625	200	520	155
18	1000	360	850	290	580	200	470	155
20	920	370	720	290	500	200	420	155
22	850	370	620	290	450	200	380	155
25	750	360	570	275	400	190	340	155



RPM=REVOLUTION PER MIN.
Feed=mm / min

