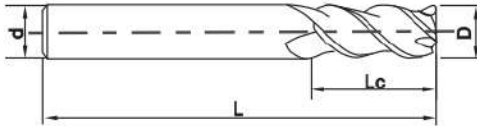


Square End Mill (HRC48)



2 FLUTES SQUARE



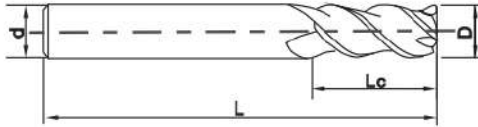
	2 Flutes	Cobalt 12%	HRC 48	AICrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-005S-50-2F	0.5	4	1	50	2	▲
TAKEZO48-008S-50-2F	0.8	4	2	50	2	▲
TAKEZO48-010S-50-2F	1.0	4	3	50	2	▲
TAKEZO48-015S-50-2F	1.5	4	5	50	2	▲
TAKEZO48-020S-50-1-2F	2.0	4	3	50	2	▲
TAKEZO48-020S-50-2-2F	2.0	4	6	50	2	▲
TAKEZO48-020S-75-2F	2.0	4	15	75	2	▲
TAKEZO48-025S-50-1-2F	2.5	4	6	50	2	▲
TAKEZO48-025S-50-2-2F	2.5	4	8	50	2	▲
TAKEZO48-030S-04-50-2F	3.0	4	9	50	2	▲
TAKEZO48-030S-06-50-2F	3.0	6	9	50	2	▲
TAKEZO48-030S-06-75-2F	3.0	6	12	75	2	▲
TAKEZO48-040S-04-50-2F	4.0	4	11	50	2	▲
TAKEZO48-040S-06-50-2F	4.0	6	11	50	2	▲
TAKEZO48-045S-50-1-2F	4.5	6	11	50	2	▲
TAKEZO48-045S-50-2-2F	4.5	6	13	50	2	△
TAKEZO48-050S-50-2F	5.0	6	13	50	2	▲
TAKEZO48-055S-50-2F	5.5	6	16	50	2	▲
TAKEZO48-060S-50-2F	6.0	6	16	50	2	▲
TAKEZO48-060S-100-2F	6.0	6	20	100	2	▲
TAKEZO48-065S-60-2F	6.5	8	16	60	2	▲
TAKEZO48-070S-60-2F	7.0	8	20	60	2	▲
TAKEZO48-075S-60-2F	7.5	8	20	60	2	△
TAKEZO48-080S-60-2F	8.0	8	20	60	2	▲
TAKEZO48-080S-100-2F	8.0	8	25	100	2	△
TAKEZO48-085S-75-2F	8.5	10	23	75	2	△
TAKEZO48-090S-75-2F	9.0	10	23	75	2	▲
TAKEZO48-100S-75-2F	10.0	10	25	75	2	▲
TAKEZO48-100S-100-2F	10.0	10	30	100	2	▲
TAKEZO48-120S-75-2F	12.0	12	30	75	2	▲
TAKEZO48-120S-100-2F	12.0	12	35	100	2	▲
TAKEZO48-160S-150-2F	16.0	16	36	150	2	▲
TAKEZO48-200S-150-2F	20.0	20	45	150	2	△

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B81

Square End Mill (HRC48)


4 FLUTES SQUARE


	4Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-010S-50-4F	1.0	4	3	50	4	▲
TAKEZO48-015S-04-50-4F	1.5	4	5	50	4	▲
TAKEZO48-015S-06-50-4F	1.5	6	5	50	4	▲
TAKEZO48-020S-04-50-4F	2.0	4	6	50	4	▲
TAKEZO48-020S-06-50-4F	2.0	6	6	50	4	▲
TAKEZO48-025S-04-50-4F	2.5	4	8	50	4	▲
TAKEZO48-025S-06-50-4F	2.5	6	8	50	4	▲
TAKEZO48-030S-03-50-4F	3.0	3	9	50	4	▲
TAKEZO48-030S-04-50-4F	3.0	4	9	50	4	▲
TAKEZO48-030S-06-50-1-4F	3.0	6	6	50	4	▲
TAKEZO48-030S-06-50-2-4F	3.0	6	9	50	4	▲
TAKEZO48-030S-75-4F	3.0	4	12	75	4	▲
TAKEZO48-031S-50-4F	3.1	4	9	50	4	▲
TAKEZO48-035S-50-4F	3.5	4	11	50	4	▲
TAKEZO48-040S-04-50-4F	4.0	4	11	50	4	▲
TAKEZO48-040S-06-50-4F	4.0	6	11	50	4	▲
TAKEZO48-040S-75-4F	4.0	4	15	75	4	▲
TAKEZO48-045S-50-4F	4.5	6	11	50	4	▲
TAKEZO48-050S-05-50-4F	5.0	5	13	50	4	▲
TAKEZO48-050S-06-50-1-4F	5.0	6	8	50	4	▲
TAKEZO48-050S-06-50-2-4F	5.0	6	13	50	4	▲
TAKEZO48-050S-75-4F	5.0	6	20	75	4	▲
TAKEZO48-055S-50-4F	5.5	6	16	50	4	▲
TAKEZO48-060S-50-1-4F	6.0	6	16	50	4	▲
TAKEZO48-060S-50-2-4F	6.0	6	18	50	4	▲
TAKEZO48-060S-75-4F	6.0	6	20	75	4	▲
TAKEZO48-060S-75-2-4F	6.0	6	30	75	4	▲
TAKEZO48-065S-60-4F	6.5	8	16	60	4	△
TAKEZO48-070S-60-4F	7.0	8	20	60	4	▲
TAKEZO48-075S-60-4F	7.5	8	20	60	4	△
TAKEZO48-080S-60-1-4F	8.0	8	20	60	4	▲
TAKEZO48-080S-60-2-4F	8.0	8	24	60	4	△
TAKEZO48-080S-100-4F	8.0	8	25	100	4	▲

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B82

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

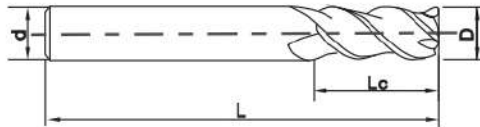
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Square End Mill (HRC48)



4/6 FLUTES SQUARE



	4Flutes 6Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-085S-75-4F	8.5	10	23	75	4	▲
TAKEZO48-090S-75-4F	9.0	10	23	75	4	▲
TAKEZO48-095S-75-4F	9.5	10	25	75	4	▲
TAKEZO48-100S-75-4F	10.0	10	25	75	4	▲
TAKEZO48-100S-100-4F	10.0	10	30	100	4	▲
TAKEZO48-110S-75-4F	11.0	12	28	75	4	▲
TAKEZO48-120S-75-4F	12.0	12	30	75	4	▲
TAKEZO48-120S-100-4F	12.0	12	35	100	4	▲
TAKEZO48-130S-100-4F	13.0	14	32	100	4	△
TAKEZO48-140S-75-4F	14.0	14	32	75	4	▲
TAKEZO48-140S-100-4F	14.0	14	34	100	4	△
TAKEZO48-150S-100-4F	15.0	16	36	100	4	▲
TAKEZO48-160S-100-4F	16.0	16	36	100	4	▲
TAKEZO48-180S-100-4F	18.0	18	45	100	4	▲
TAKEZO48-180S-150-4F	18.0	18	70	150	4	▲
TAKEZO48-200S-100-4F	20.0	20	45	100	4	▲
TAKEZO48-200S-150-4F	20.0	20	70	150	4	△
TAKEZO48-060S-50-6F	6.0	6	15	50	6	▲
TAKEZO48-080S-60-6F	8.0	8	20	60	6	▲
TAKEZO48-100S-75-6F	10.0	10	25	75	6	▲
TAKEZO48-120S-75-6F	12.0	12	30	75	6	▲
TAKEZO48-160S-100-6F	16.0	16	36	100	6	▲
TAKEZO48-200S-100-6F	20.0	20	45	100	6	▲

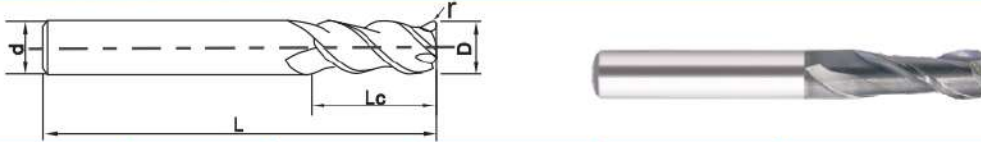
Tolerance: D ≤ 12 -0.02~0 D > 12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B82

Corner Radius End Mill (HRC48)



2 FLUTES CORNER RADIUS



	2Flutes	Cobalt 12%	HRC 48	AICrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-010CR002-50-2F	1.0	0.2	4	3	50	▲
TAKEZO48-015CR002-50-2F	1.5	0.2	4	5	50	▲
TAKEZO48-020CR002-50-2F	2.0	0.2	4	6	50	▲
TAKEZO48-030CR002-04-50-2F	3.0	0.2	4	9	50	△
TAKEZO48-030CR002-06-50-2F	3.0	0.2	6	9	50	▲
TAKEZO48-030CR003-04-50-2F	3.0	0.3	4	9	50	△
TAKEZO48-030CR003-06-50-2F	3.0	0.3	6	9	50	▲
TAKEZO48-030CR005-04-50-2F	3.0	0.5	4	9	50	△
TAKEZO48-030CR005-06-50-2F	3.0	0.5	6	9	50	△
TAKEZO48-040CR002-04-50-2F	4.0	0.2	4	11	50	△
TAKEZO48-040CR002-06-50-2F	4.0	0.2	6	11	50	▲
TAKEZO48-040CR003-04-50-2F	4.0	0.3	4	11	50	△
TAKEZO48-040CR003-06-50-2F	4.0	0.3	6	11	50	▲
TAKEZO48-040CR005-04-50-2F	4.0	0.5	4	11	50	△
TAKEZO48-040CR005-06-50-2F	4.0	0.5	6	11	50	▲
TAKEZO48-040CR010-50-2F	4.0	1.0	4	11	50	▲
TAKEZO48-050CR002-50-2F	5.0	0.2	6	13	50	▲
TAKEZO48-050CR003-50-2F	5.0	0.3	6	13	50	△
TAKEZO48-050CR005-50-2F	5.0	0.5	6	13	50	△
TAKEZO48-050CR010-50-2F	5.0	1.0	6	13	50	▲
TAKEZO48-060CR005-50-2F	6.0	0.5	6	16	50	▲
TAKEZO48-060CR010-50-2F	6.0	1.0	6	16	50	△
TAKEZO48-060CR015-50-2F	6.0	1.5	6	16	50	△
TAKEZO48-060CR020-50-2F	6.0	2.0	6	16	50	△
TAKEZO48-060CR010-75-2F	6.0	1.0	6	16	75	▲
TAKEZO48-060CR015-75-2F	6.0	1.5	6	16	75	△
TAKEZO48-080CR003-60-2F	8.0	0.3	8	20	60	△
TAKEZO48-080CR010-60-2F	8.0	1.0	8	20	60	▲
TAKEZO48-080CR015-60-2F	8.0	1.5	8	20	60	△
TAKEZO48-080CR020-60-2F	8.0	2.0	8	20	60	△
TAKEZO48-080CR005-75-2F	8.0	0.5	8	20	75	▲
TAKEZO48-080CR010-75-2F	8.0	1.0	8	20	75	▲
TAKEZO48-080CR002-100-2F	8.0	0.2	8	20	100	▲
TAKEZO48-080CR005-100-2F	8.0	0.5	8	20	100	△
TAKEZO48-100CR003-75-2F	10.0	0.3	10	25	75	▲

Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B81

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

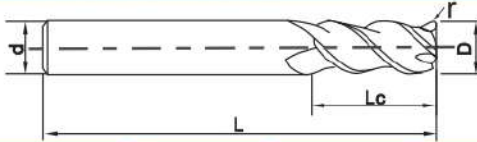
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Corner Radius End Mill (HRC48)



2 FLUTES CORNER RADIUS



	2Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-100CR005-75-2F	10	0.5	10	25	75	△
TAKEZO48-100CR010-75-2F	10	1.0	10	25	75	▲
TAKEZO48-100CR015-75-2F	10	1.5	10	25	75	△
TAKEZO48-100CR020-75-2F	10	2.0	10	25	75	△
TAKEZO48-100CR030-75-2F	10	3.0	10	25	75	△
TAKEZO48-100CR010-100-2F	10	1.0	10	25	100	▲
TAKEZO48-120CR005-75-2F	12	0.5	12	30	75	▲
TAKEZO48-120CR010-75-2F	12	1.0	12	30	75	△
TAKEZO48-120CR015-75-2F	12	1.5	12	30	75	△
TAKEZO48-120CR020-75-2F	12	2.0	12	30	75	▲
TAKEZO48-120CR030-75-2F	12	3.0	12	30	75	▲
TAKEZO48-160CR005-100-2F	16	0.5	16	36	100	△
TAKEZO48-160CR010-100-2F	16	1.0	16	36	100	▲
TAKEZO48-160CR020-100-2F	16	2.0	16	36	100	△
TAKEZO48-160CR030-100-2F	16	3.0	16	36	100	△
TAKEZO48-160CR020-150-2F	16	2.0	16	36	150	△

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B81

TAKEZO48
For General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
For General Steels
Cast Irons

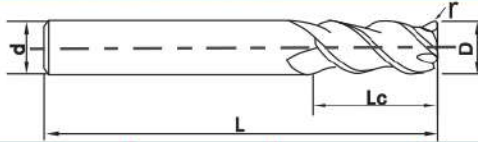
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Corner Radius End Mill (HRC48)



4 FLUTES CORNER RADIUS



4Flutes		Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation					
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys	
<HRC35	<HRC48	HRC48-55	HRC55-60				
●	●			○	●		
Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Stock	
TAKEZO48-010CR002-50-4F	1.0	0.2	4	3	50	▲	
TAKEZO48-015CR002-50-4F	1.5	0.2	4	5	50	▲	
TAKEZO48-020CR002-50-4F	2.0	0.2	4	6	50	▲	
TAKEZO48-030CR002-50-1-4F	3.0	0.2	4	6	50	▲	
TAKEZO48-030CR002-50-2-4F	3.0	0.2	4	9	50	△	
TAKEZO48-030CR003-50-4F	3.0	0.3	4	9	50	△	
TAKEZO48-030CR005-50-4F	3.0	0.5	4	9	50	▲	
TAKEZO48-030CR005-75-4F	3.0	0.5	4	9	75	▲	
TAKEZO48-040CR002-50-1-4F	4.0	0.2	4	6	50	▲	
TAKEZO48-040CR002-50-2-4F	4.0	0.2	4	11	50	▲	
TAKEZO48-040CR003-50-4F	4.0	0.3	4	11	50	▲	
TAKEZO48-040CR005-50-4F	4.0	0.5	4	11	50	▲	
TAKEZO48-040CR005-75-4F	4.0	0.5	4	11	75	▲	
TAKEZO48-040CR010-50-4F	4.0	1.0	4	11	50	△	
TAKEZO48-045CR010-50-4F	4.5	1.0	6	12	50	▲	
TAKEZO48-050CR002-06-50-4F	5.0	0.2	6	13	50	▲	
TAKEZO48-050CR005-05-50-4F	5.0	0.5	5	13	50	▲	
TAKEZO48-050CR005-06-50-4F	5.0	0.5	6	13	50	△	
TAKEZO48-050CR010-05-50-4F	5.0	1.0	5	13	50	△	
TAKEZO48-050CR010-06-50-4F	5.0	1.0	6	13	50	△	
TAKEZO48-050CR015-50-4F	5.0	1.5	6	13	50	△	
TAKEZO48-060CR002-50-4F	6.0	0.2	6	16	50	▲	
TAKEZO48-060CR005-50-1-4F	6.0	0.5	6	9	50	▲	
TAKEZO48-060CR005-50-2-4F	6.0	0.5	6	16	50	▲	
TAKEZO48-060CR010-50-4F	6.0	1.0	6	16	50	▲	
TAKEZO48-060CR015-50-4F	6.0	1.5	6	16	50	△	
TAKEZO48-060CR005-75-4F	6.0	0.5	6	16	75	▲	
TAKEZO48-060CR010-75-4F	6.0	1.0	6	16	75	▲	
TAKEZO48-060CR015-75-4F	6.0	1.5	6	16	75	△	
TAKEZO48-080CR003-60-4F	8.0	0.3	8	20	60	▲	
TAKEZO48-080CR005-60-4F	8.0	0.5	8	20	60	△	
TAKEZO48-080CR010-60-4F	8.0	1.0	8	20	60	▲	
TAKEZO48-080CR015-60-4F	8.0	1.5	8	20	60	△	
TAKEZO48-080CR020-60-4F	8.0	2.0	8	20	60	▲	
TAKEZO48-080CR005-75-4F	8.0	0.5	8	20	75	△	

Tolerance: D ≤ 12 -0.02~0 D > 12 -0.03~0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B82

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

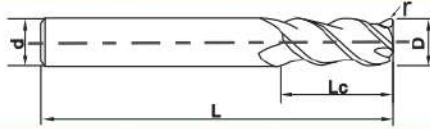
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Corner Radius End Mill (HRC48)



4 FLUTES CORNER RADIUS



	4Flutes	Cobalt 12%	HRC 48	AICrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-080CR010-75-4F	8	1.0	8	20	75	▲
TAKEZO48-080CR005-100-4F	8	0.5	8	20	100	▲
TAKEZO48-080CR010-100-4F	8	1.0	8	20	100	△
TAKEZO48-080CR015-100-4F	8	1.5	8	20	100	△
TAKEZO48-080CR020-100-4F	8	2.0	8	20	100	△
TAKEZO48-100CR002-75-4F	10	0.2	10	25	75	△
TAKEZO48-100CR003-75-4F	10	0.3	10	25	75	△
TAKEZO48-100CR005-75-4F	10	0.5	10	25	75	▲
TAKEZO48-100CR010-75-4F	10	1.0	10	25	75	▲
TAKEZO48-100CR015-75-4F	10	1.5	10	25	75	△
TAKEZO48-100CR020-75-4F	10	2.0	10	25	75	▲
TAKEZO48-100CR025-75-4F	10	2.5	10	25	75	▲
TAKEZO48-100CR030-75-4F	10	3.0	10	25	75	△
TAKEZO48-100CR005-100-4F	10	0.5	10	25	100	▲
TAKEZO48-100CR010-100-4F	10	1.0	10	25	100	▲
TAKEZO48-100CR015-100-4F	10	1.5	10	25	100	△
TAKEZO48-100CR020-100-4F	10	2.0	10	25	100	△
TAKEZO48-120CR005-75-4F	12	0.5	12	30	75	▲
TAKEZO48-120CR010-75-4F	12	1.0	12	30	75	▲
TAKEZO48-120CR015-75-4F	12	1.5	12	30	75	▲
TAKEZO48-120CR020-75-4F	12	2.0	12	30	75	▲
TAKEZO48-120CR025-75-4F	12	2.5	12	30	75	▲
TAKEZO48-120CR030-75-4F	12	3.0	12	30	75	▲
TAKEZO48-120CR005-100-4F	12	0.5	12	30	100	△
TAKEZO48-120CR010-100-4F	12	1.0	12	30	100	▲
TAKEZO48-120CR015-100-4F	12	1.5	12	30	100	△
TAKEZO48-120CR020-100-4F	12	2.0	12	30	100	▲
TAKEZO48-120CR030-100-4F	12	3.0	12	30	100	△
TAKEZO48-160CR005-100-4F	16	0.5	16	36	100	△
TAKEZO48-160CR010-100-4F	16	1.0	16	36	100	▲
TAKEZO48-160CR020-100-4F	16	2.0	16	36	100	△
TAKEZO48-160CR030-100-4F	16	3.0	16	36	100	△
TAKEZO48-160CR005-150-4F	16	0.5	16	36	150	△
TAKEZO48-160CR010-150-4F	16	1.0	16	36	150	▲
TAKEZO48-160CR015-150-4F	16	1.5	16	36	150	△
TAKEZO48-160CR020-150-4F	16	2.0	16	36	150	△
TAKEZO48-160CR030-150-4F	16	3.0	16	36	150	△

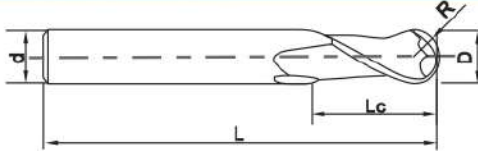
Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B82

Ball Nose End Mill (HRC48)



2 FLUTES BALL NOSE



	2Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-008B-50-2F	0.8	0.40	4	1.6	50	▲
TAKEZO48-009B-50-2F	0.9	0.45	4	1.8	50	▲
TAKEZO48-010B-50-2F	1.0	0.50	4	2.0	50	▲
TAKEZO48-015B-50-2F	1.5	0.75	4	3.0	50	▲
TAKEZO48-020B-04-50-2F	2.0	1.00	4	4.0	50	▲
TAKEZO48-020B-06-50-2F	2.0	1.00	6	4.0	50	△
TAKEZO48-020B-04-75-2F	2.0	1.00	4	4.0	75	▲
TAKEZO48-020B-06-75-2F	2.0	1.00	6	4.0	75	▲
TAKEZO48-025B-50-2F	2.5	1.25	4	5.0	50	△
TAKEZO48-030B-04-50-2F	3.0	1.50	4	6.0	50	▲
TAKEZO48-030B-06-50-2F	3.0	1.50	6	6.0	50	▲
TAKEZO48-030B-04-75-2F	3.0	1.50	4	6.0	75	▲
TAKEZO48-030B-06-75-2F	3.0	1.50	6	6.0	75	▲
TAKEZO48-040B-04-50-2F	4.0	2.00	4	8.0	50	▲
TAKEZO48-040B-06-50-2F	4.0	2.00	6	8.0	50	▲
TAKEZO48-040B-04-75-2F	4.0	2.00	4	8.0	75	▲
TAKEZO48-040B-06-75-2F	4.0	2.00	6	8.0	75	▲
TAKEZO48-050B-50-2F	5.0	2.50	6	10.0	50	▲
TAKEZO48-050B-75-2F	5.0	2.50	6	10.0	75	▲
TAKEZO48-060B-50-2F	6.0	3.00	6	12.0	50	▲
TAKEZO48-060B-75-2F	6.0	3.00	6	12.0	75	▲
TAKEZO48-070B-60-2F	7.0	3.50	8	14.0	60	▲
TAKEZO48-070B-100-2F	7.0	3.50	8	14.0	100	▲

Tolerance: R≤1.5 -0.01-0 1.5<R<3 -0.015-0 R≥3 -0.02-0

▲ Stock △ Non-Stock
 Recommended Cutting Conditions B83

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

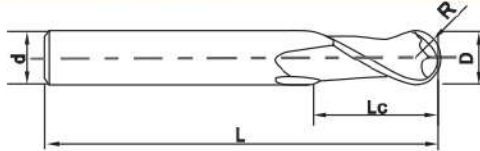
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Ball Nose End Mill (HRC48)



2 FLUTES BALL NOSE



	2Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-080B-60-2F	8	4.0	8	14	60	▲
TAKEZO48-080B-75-2F	8	4.0	8	14	75	▲
TAKEZO48-080B-100-2F	8	4.0	8	14	100	▲
TAKEZO48-090B-75-2F	9	4.5	10	16	75	▲
TAKEZO48-090B-100-2F	9	4.5	10	16	100	▲
TAKEZO48-100B-75-2F	10	5.0	10	18	75	▲
TAKEZO48-100B-100-2F	10	5.0	10	18	100	▲
TAKEZO48-110B-75-2F	11	5.5	12	20	75	▲
TAKEZO48-110B-100-2F	11	5.5	12	20	100	▲
TAKEZO48-120B-75-2F	12	6.0	12	22	75	▲
TAKEZO48-120B-100-2F	12	6.0	12	22	100	▲
TAKEZO48-130B-100-2F	13	6.5	14	26	100	▲
TAKEZO48-140B-100-2F	14	7.0	14	26	100	▲
TAKEZO48-150B-100-2F	15	7.5	16	30	100	▲
TAKEZO48-160B-100-2F	16	8.0	16	30	100	▲
TAKEZO48-200B-100-2F	20	10.0	20	38	100	▲

Tolerance: R ≤ 1.5 -0.01-0 1.5 < R < 3 -0.015-0 R ≥ 3 -0.02-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B83

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

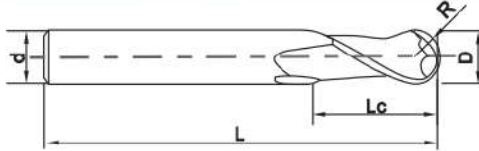
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Ball Nose End Mill (HRC48)



4 FLUTES BALL NOSE



	4Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Stock
TAKEZO48-020B-04-50-4F	2.0	1.00	4	4	50	▲
TAKEZO48-025B-50-4F	2.5	1.25	4	5	50	▲
TAKEZO48-030B-03-50-4F	3.0	1.50	3	6	50	▲
TAKEZO48-030B-04-50-4F	3.0	1.50	4	6	50	△
TAKEZO48-030B-06-50-4F	3.0	1.50	6	6	50	▲
TAKEZO48-040B-04-50-4F	4.0	2.00	4	8	50	▲
TAKEZO48-040B-06-50-4F	4.0	2.00	6	8	50	▲
TAKEZO48-050B-05-50-4F	5.0	2.50	5	10	50	△
TAKEZO48-050B-06-50-4F	5.0	2.50	6	10	50	▲
TAKEZO48-060B-50-4F	6.0	3.00	6	12	50	▲
TAKEZO48-060B-100-4F	6.0	3.00	6	12	100	▲
TAKEZO48-060B-150-4F	6.0	3.00	6	12	150	▲
TAKEZO48-070B-60-4F	7.0	3.50	8	14	60	▲
TAKEZO48-080B-60-4F	8.0	4.00	8	14	60	▲
TAKEZO48-080B-100-4F	8.0	4.00	8	14	100	▲
TAKEZO48-090B-75-4F	9.0	4.50	10	16	75	▲
TAKEZO48-100B-75-4F	10.0	5.00	10	18	75	▲
TAKEZO48-110B-75-4F	11.0	5.50	12	20	75	▲
TAKEZO48-120B-75-4F	12.0	6.00	12	22	75	▲
TAKEZO48-120B-100-4F	12.0	6.00	12	22	100	▲
TAKEZO48-120B-150-4F	12.0	6.00	12	22	150	▲
TAKEZO 48-140B-75-4F	14.0	7.00	14	24	75	▲
TAKEZO48-160B-100-4F	16.0	8.00	16	30	100	▲
TAKEZO48-200B-100-4F	20.0	10.00	20	38	100	▲

Tolerance: R≤1.5 -0.01~0 1.5<R<3 -0.015~0 R≥3 -0.02~0

▲ Stock △ Non-Stock
 Recommended Cutting Conditions B83

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

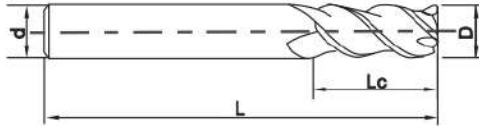
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Variable Helix Square End Mill(HRC48)



4 FLUTES SQUARE



	4Flutes	Cobalt 12%	HRC 48	AlCrSiN Coating	UMG 0.5µm	Materials Carbide
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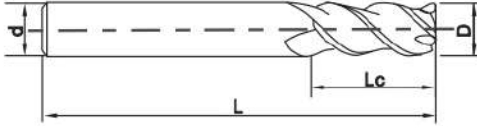
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●				○	

Order No.	D (mm)	d (mm)	Lc (mm)	L (mm)	Flutes	Stock
TAKEZO3538-020S-50-4F	2.0	4	6	50	4	▲
TAKEZO3538-030S-50-4F	3.0	4	9	50	4	▲
TAKEZO3538-040S-50-4F	4.0	4	11	50	4	▲
TAKEZO3538-040S-06-50-4F	4.0	6	11	50	4	▲
TAKEZO3538-040S-75-4F	4.0	6	15	75	4	▲
TAKEZO3538-050S-50-4F	5.0	6	13	50	4	▲
TAKEZO3538-050S-75-4F	5.0	6	20	75	4	▲
TAKEZO3538-055S-50-4F	5.5	6	16	50	4	▲
TAKEZO3538-060S-50-4F	6.0	6	16	50	4	▲
TAKEZO3538-060S-75-4F	6.0	6	20	75	4	▲
TAKEZO3538-070S-60-4F	7.0	8	20	60	4	▲
TAKEZO3538-080S-60-4F	8.0	8	16	60	4	▲
TAKEZO3538-080S-60-1-4F	8.0	8	20	60	4	▲
TAKEZO3538-080S-60-2-4F	8.0	8	25	60	4	▲
TAKEZO3538-080S-75-4F	8.0	8	25	75	4	▲
TAKEZO3538-080S-100-4F	8.0	8	25	100	4	▲
TAKEZO3538-100S-75-4F	10.0	10	25	75	4	▲
TAKEZO3538-100S-75-1-4F	10.0	10	20	75	4	▲
TAKEZO3538-100S-75-2-4F	10.0	10	30	75	4	▲
TAKEZO3538-100S-100-4F	10.0	10	30	100	4	▲
TAKEZO3538-120S-75-4F	12.0	12	30	75	4	▲
TAKEZO3538-120S-75-1-4F	12.0	12	24	75	4	▲
TAKEZO3538-120S-100-4F	12.0	12	35	100	4	▲
TAKEZO3538-140S-75-4F	14.0	14	32	75	4	▲
TAKEZO3538-140S-100-4F	14.0	14	40	100	4	▲
TAKEZO3538-160S-100-4F	16.0	16	36	100	4	▲
TAKEZO3538-160S-150-4F	16.0	16	50	150	4	▲
TAKEZO3538-180S-100-4F	18.0	18	45	100	4	▲
TAKEZO3538-180S-150-4F	18.0	18	50	150	4	▲
TAKEZO3538-200S-100-4F	20.0	20	45	100	4	▲
TAKEZO3538-200S-150-4F	20.0	20	50	150	4	▲

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B84

Variable Helix Square End Mill(HRC48)

4 FLUTES SQUARE


	4Flutes	Cobalt 12%	HRC 48	TiSiAlN Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation					
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys	
<HRC35	<HRC48	HRC48-55	HRC55-60			●	

Order No.	D (mm)	d (mm)	Lc (mm)	L (mm)	Flutes	Stock
TAKEZO 3638-020S-50-4F	2.0	4	6	50	4	▲
TAKEZO 3638-030S-50-4F	3.0	4	9	50	4	▲
TAKEZO 3638-040S-50-4F	4.0	4	12	50	4	▲
TAKEZO 3638-040S-06-50-4F	4.0	6	12	50	4	▲
TAKEZO 3638-040S-75-4F	4.0	6	12	75	4	▲
TAKEZO 3638-050S-50-4F	5.0	6	13	50	4	▲
TAKEZO 3638-050S-75-4F	5.0	6	20	75	4	▲
TAKEZO 3638-055S-50-4F	5.5	6	16	50	4	▲
TAKEZO 3638-060S-50-4F	6.0	6	18	50	4	▲
TAKEZO 3638-060S-75-4F	6.0	6	18	75	4	▲
TAKEZO 3638-070S-60-4F	7.0	8	20	60	4	▲
TAKEZO 3638-080S-60-4F	8.0	8	16	60	4	▲
TAKEZO 3638-080S-60-1-4F	8.0	8	20	60	4	▲
TAKEZO 3638-080S-60-2-4F	8.0	8	24	60	4	▲
TAKEZO 3638-080S-75-4F	8.0	8	24	75	4	▲
TAKEZO 3638-080S-100-4F	8.0	8	32	100	4	▲
TAKEZO 3638-100S-75-4F	10.0	10	25	75	4	▲
TAKEZO 3638-100S-75-1-4F	10.0	10	20	75	4	▲
TAKEZO 3638-100S-75-2-4F	10.0	10	30	75	4	▲
TAKEZO 3638-100S-100-4F	10.0	10	40	100	4	▲
TAKEZO 3638-120S-75-4F	12.0	12	36	75	4	▲
TAKEZO 3638-120S-75-1-4F	12.0	12	24	75	4	▲
TAKEZO 3638-120S-100-4F	12.0	12	40	100	4	▲
TAKEZO 3638-140S-75-4F	14.0	14	32	75	4	▲
TAKEZO 3638-140S-100-4F	14.0	14	40	100	4	▲
TAKEZO 3638-160S-100-4F	16.0	16	36	100	4	▲
TAKEZO 3638-160S-150-4F	16.0	16	50	150	4	▲
TAKEZO 3638-180S-100-4F	18.0	18	45	100	4	▲
TAKEZO 3638-180S-150-4F	18.0	18	50	150	4	▲
TAKEZO 3638-200S-100-4F	20.0	20	45	100	4	▲
TAKEZO 3638-200S-150-4F	20.0	20	50	150	4	▲

Tolerance: D ≤ 12 -0.02~0 D > 12 -0.03~0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B96

 TAKEZO 48
 for General Steels
 Cast Irons

 TAKEZO 3538
 for General Steels
 Cast Irons

 TAKEZO 3638
 for Stainless Steels

 TAKEZO 3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

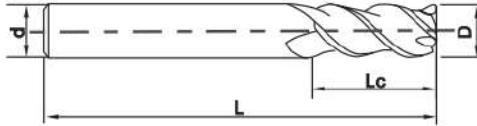
 TAKEZO 48S/L
 for General Steels

 TAKEZO 48-E
 for General Steels

Variable Lead Square End Mill(HRC48)



2 FLUTES SQUARE [1.5D]



	2 Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

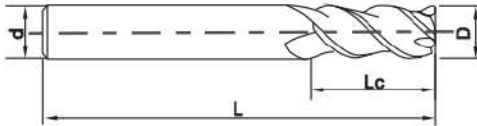
Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 3538-MS010S-50-2F-1.5D	1.0	4	1.5	50	2	△
TAKEZO 3538-MS015S-50-2F-1.5D	1.5	4	2.3	50	2	△
TAKEZO 3538-MS020S-50-2F-1.5D	2.0	4	3.0	50	2	▲
TAKEZO 3538-MS030S-50-2F-1.5D	3.0	4	4.5	50	2	▲
TAKEZO 3538-MS040S-50-2F-1.5D	4.0	4	6.0	50	2	△
TAKEZO 3538-MS040S-75-2F-1.5D	4.0	4	6.0	75	2	▲
TAKEZO 3538-MS050S-50-2F-1.5D	5.0	6	7.5	50	2	△
TAKEZO 3538-MS060S-50-2F-1.5D	6.0	6	9.0	50	2	△
TAKEZO 3538-MS060S-75-2F-1.5D	6.0	6	9.0	75	2	▲
TAKEZO 3538-MS060S-100-2F-1.5D	6.0	6	9.0	100	2	△
TAKEZO 3538-MS080S-60-2F-1.5D	8.0	8	12.0	60	2	△
TAKEZO 3538-MS080S-75-2F-1.5D	8.0	8	12.0	75	2	△
TAKEZO 3538-MS080S-100-2F-1.5D	8.0	8	12.0	100	2	▲
TAKEZO 3538-MS100S-75-2F-1.5D	10.0	10	15.0	75	2	△
TAKEZO 3538-MS100S-100-2F-1.5D	10.0	10	15.0	100	2	▲
TAKEZO 3538-MS120S-75-2F-1.5D	12.0	12	18.0	75	2	△
TAKEZO 3538-MS120S-100-2F-1.5D	12.0	12	18.0	100	2	▲
TAKEZO 3538-MS160S-100-2F-1.5D	16.0	16	24.0	100	2	△
TAKEZO 3538-MS160S-150-2F-1.5D	16.0	16	24.0	150	2	△
TAKEZO 3538-MS200S-100-2F-1.5D	20.0	20	30.0	100	2	△
TAKEZO 3538-MS200S-150-2F-1.5D	20.0	20	30.0	150	2	△

Tolerance: D ≤ 12 -0.02~0 D > 12 -0.03~0

▲ Stock △ Non-Stock

Recommended Cutting Conditions B85~B86

Variable Lead Square End Mill(HRC48)

2 FLUTES SQUARE [3D]


	2 Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation					
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys	
<HRC35	<HRC48	HRC48-55	HRC55-60				
				●	●	●	

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS010S-50-2F-3D	1.0	4	3.0	50	2	△
TAKEZO3538-MS015S-50-2F-3D	1.5	4	4.5	50	2	△
TAKEZO3538-MS020S-50-2F-3D	2.0	4	6.0	50	2	△
TAKEZO3538-MS030S-50-2F-3D	3.0	4	9.0	50	2	△
TAKEZO3538-MS040S-50-2F-3D	4.0	4	12.0	50	2	△
TAKEZO3538-MS040S-75-2F-3D	4.0	4	12.0	75	2	▲
TAKEZO3538-MS050S-50-2F-3D	5.0	6	15.0	50	2	△
TAKEZO3538-MS060S-50-2F-3D	6.0	6	18.0	50	2	△
TAKEZO3538-MS060S-75-2F-3D	6.0	6	18.0	75	2	▲
TAKEZO3538-MS060S-100-2F-3D	6.0	6	18.0	100	2	△
TAKEZO3538-MS080S-60-2F-3D	8.0	8	24.0	60	2	△
TAKEZO3538-MS080S-75-2F-3D	8.0	8	24.0	75	2	△
TAKEZO3538-MS080S-100-2F-3D	8.0	8	24.0	100	2	▲
TAKEZO3538-MS100S-75-2F-3D	10.0	10	30.0	75	2	△
TAKEZO3538-MS100S-100-2F-3D	10.0	10	30.0	100	2	▲
TAKEZO3538-MS120S-75-2F-3D	12.0	12	36.0	75	2	△
TAKEZO3538-MS120S-100-2F-3D	12.0	12	36.0	100	2	▲
TAKEZO3538-MS160S-100-2F-3D	16.0	16	48.0	100	2	▲
TAKEZO3538-MS160S-150-2F-3D	16.0	16	48.0	150	2	△
TAKEZO3538-MS200S-100-2F-3D	20.0	20	60.0	100	2	△
TAKEZO3538-MS200S-150-2F-3D	20.0	20	60.0	150	2	△

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B85~B86

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

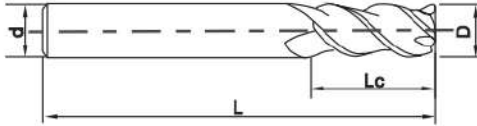
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Variable Lead Square End Mill(HRC48)



4 FLUTES SQUARE [2.5D]



	4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS010S-50-4F-2.5D	1.0	4	2.5	50	4	▲
TAKEZO3538-MS015S-50-4F-2.5D	1.5	4	3.8	50	4	▲
TAKEZO3538-MS020S-50-4F-2.5D	2.0	4	5.0	50	4	▲
TAKEZO3538-MS030S-50-4F-2.5D	3.0	4	8.0	50	4	▲
TAKEZO3538-MS040S-50-4F-2.5D	4.0	4	10.0	50	4	▲
TAKEZO3538-MS040S-75-4F-2.5D	4.0	4	10.0	75	4	△
TAKEZO3538-MS050S-50-4F-2.5D	5.0	6	12.0	50	4	▲
TAKEZO3538-MS060S-50-4F-2.5D	6.0	6	15.0	50	4	▲
TAKEZO3538-MS060S-75-4F-2.5D	6.0	6	15.0	75	4	▲
TAKEZO3538-MS060S-100-4F-2.5D	6.0	6	15.0	100	4	△
TAKEZO3538-MS080S-60-4F-2.5D	8.0	8	20.0	60	4	▲
TAKEZO3538-MS080S-75-4F-2.5D	8.0	8	20.0	75	4	△
TAKEZO3538-MS080S-100-4F-2.5D	8.0	8	20.0	100	4	△
TAKEZO3538-MS100S-75-4F-2.5D	10.0	10	25.0	75	4	▲
TAKEZO3538-MS100S-100-4F-2.5D	10.0	10	25.0	100	4	△
TAKEZO3538-MS120S-75-4F-2.5D	12.0	12	30.0	75	4	▲
TAKEZO3538-MS120S-100-4F-2.5D	12.0	12	30.0	100	4	△
TAKEZO3538-MS160S-100-4F-2.5D	16.0	16	40.0	100	4	▲
TAKEZO3538-MS160S-150-4F-2.5D	16.0	16	40.0	150	4	△
TAKEZO3538-MS200S-100-4F-2.5D	20.0	20	50.0	100	4	△
TAKEZO3538-MS200S-150-4F-2.5D	20.0	20	50.0	150	4	△

Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B85

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

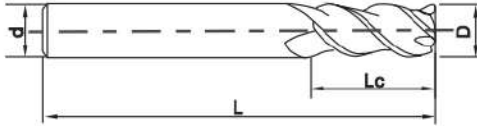
TU45
For General Steels
Cast Irons

TD3941
For General Steels
Cast Irons

TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Variable Lead Square End Mill(HRC48)

4 FLUTES SQUARE [3D]


 4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 3538-MS010S-50-4F-3D	1.0	4	3.0	50	4	▲
TAKEZO 3538-MS015S-50-4F-3D	1.5	4	4.5	50	4	△
TAKEZO 3538-MS020S-50-4F-3D	2.0	4	6.0	50	4	△
TAKEZO 3538-MS030S-50-4F-3D	3.0	4	9.0	50	4	▲
TAKEZO 3538-MS040S-50-4F-3D	4.0	4	12.0	50	4	△
TAKEZO 3538-MS040S-75-4F-3D	4.0	4	12.0	75	4	△
TAKEZO 3538-MS050S-50-4F-3D	5.0	6	15.0	50	4	▲
TAKEZO 3538-MS060S-50-4F-3D	6.0	6	18.0	50	4	△
TAKEZO 3538-MS060S-75-4F-3D	6.0	6	18.0	75	4	△
TAKEZO 3538-MS060S-100-4F-3D	6.0	6	18.0	100	4	△
TAKEZO 3538-MS080S-60-4F-3D	8.0	8	24.0	60	4	△
TAKEZO 3538-MS080S-75-4F-3D	8.0	8	24.0	75	4	▲
TAKEZO 3538-MS080S-100-4F-3D	8.0	8	24.0	100	4	△
TAKEZO 3538-MS100S-75-4F-3D	10.0	10	30.0	75	4	△
TAKEZO 3538-MS100S-100-4F-3D	10.0	10	30.0	100	4	▲
TAKEZO 3538-MS120S-75-4F-3D	12.0	12	36.0	75	4	△
TAKEZO 3538-MS120S-100-4F-3D	12.0	12	36.0	100	4	▲
TAKEZO 3538-MS160S-100-4F-3D	16.0	16	48.0	100	4	△
TAKEZO 3538-MS160S-150-4F-3D	16.0	16	48.0	150	4	△
TAKEZO 3538-MS200S-100-4F-3D	20.0	20	60.0	100	4	△
TAKEZO 3538-MS200S-150-4F-3D	20.0	20	60.0	150	4	△

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B85

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO 3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

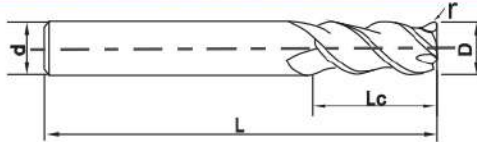
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Variable Lead Corner Radius End Mill(HRC48)



4 FLUTES CORNER RADIUS [2.5D]



	4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS010CR001-50-4F-2.5D	1.0	0.1	4	2.5	50	4	△
TAKEZO3538-MS010CR002-50-4F-2.5D	1.0	0.2	4	2.5	50	4	▲
TAKEZO3538-MS015CR001-50-4F-2.5D	1.5	0.1	4	3.8	50	4	▲
TAKEZO3538-MS015CR002-50-4F-2.5D	1.5	0.2	4	3.8	50	4	▲
TAKEZO3538-MS020CR001-50-4F-2.5D	2.0	0.1	4	5.0	50	4	▲
TAKEZO3538-MS020CR002-50-4F-2.5D	2.0	0.2	4	5.0	50	4	▲
TAKEZO3538-MS020CR005-50-4F-2.5D	2.0	0.5	4	5.0	50	4	△
TAKEZO3538-MS030CR001-50-4F-2.5D	3.0	0.1	4	8.0	50	4	▲
TAKEZO3538-MS030CR002-50-4F-2.5D	3.0	0.2	4	8.0	50	4	△
TAKEZO3538-MS030CR003-50-4F-2.5D	3.0	0.3	4	8.0	50	4	△
TAKEZO3538-MS030CR005-50-4F-2.5D	3.0	0.5	4	8.0	50	4	△
TAKEZO3538-MS040CR002-50-4F-2.5D	4.0	0.2	4	10.0	50	4	△
TAKEZO3538-MS040CR003-50-4F-2.5D	4.0	0.3	4	10.0	50	4	△
TAKEZO3538-MS040CR005-50-4F-2.5D	4.0	0.5	4	10.0	50	4	▲
TAKEZO3538-MS040CR010-50-4F-2.5D	4.0	1.0	4	10.0	50	4	△
TAKEZO3538-MS050CR002-50-4F-2.5D	5.0	0.2	6	12.0	50	4	▲
TAKEZO3538-MS050CR003-50-4F-2.5D	5.0	0.3	6	12.0	50	4	△
TAKEZO3538-MS050CR005-50-4F-2.5D	5.0	0.5	6	12.0	50	4	△
TAKEZO3538-MS050CR010-50-4F-2.5D	5.0	1.0	6	12.0	50	4	△
TAKEZO3538-MS060CR002-50-4F-2.5D	6.0	0.2	6	15.0	50	4	▲
TAKEZO3538-MS060CR003-50-4F-2.5D	6.0	0.3	6	15.0	50	4	△
TAKEZO3538-MS060CR005-50-4F-2.5D	6.0	0.5	6	15.0	50	4	▲
TAKEZO3538-MS060CR010-50-4F-2.5D	6.0	1.0	6	15.0	50	4	▲
TAKEZO3538-MS060CR015-50-4F-2.5D	6.0	1.5	6	15.0	50	4	△
TAKEZO3538-MS060CR002-75-4F-2.5D	6.0	0.2	6	15.0	75	4	△
TAKEZO3538-MS060CR003-75-4F-2.5D	6.0	0.3	6	15.0	75	4	△
TAKEZO3538-MS060CR005-75-4F-2.5D	6.0	0.5	6	15.0	75	4	▲
TAKEZO3538-MS060CR010-75-4F-2.5D	6.0	1.0	6	15.0	75	4	△
TAKEZO3538-MS060CR015-75-4F-2.5D	6.0	1.5	6	15.0	75	4	△

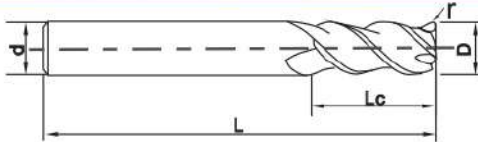
Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B85

Variable Lead Corner Radius End Mill (HRC48)



4 FLUTES CORNER RADIUS [2.5D]



	4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS080CR003-60-4F-2.5D	8	0.3	8	20	60	4	△
TAKEZO3538-MS080CR005-60-4F-2.5D	8	0.5	8	20	60	4	▲
TAKEZO3538-MS080CR010-60-4F-2.5D	8	1.0	8	20	60	4	▲
TAKEZO3538-MS080CR015-60-4F-2.5D	8	1.5	8	20	60	4	△
TAKEZO3538-MS080CR020-60-4F-2.5D	8	2.0	8	20	60	4	▲
TAKEZO3538-MS080CR003-75-4F-2.5D	8	0.3	8	20	75	4	△
TAKEZO3538-MS080CR005-75-4F-2.5D	8	0.5	8	20	75	4	△
TAKEZO3538-MS080CR010-75-4F-2.5D	8	1.0	8	20	75	4	△
TAKEZO3538-MS080CR015-75-4F-2.5D	8	1.5	8	20	75	4	△
TAKEZO3538-MS080CR020-75-4F-2.5D	8	2.0	8	20	75	4	△
TAKEZO3538-MS100CR002-75-4F-2.5D	10	0.2	10	25	75	4	△
TAKEZO3538-MS100CR003-75-4F-2.5D	10	0.3	10	25	75	4	△
TAKEZO3538-MS100CR005-75-4F-2.5D	10	0.5	10	25	75	4	▲
TAKEZO3538-MS100CR010-75-4F-2.5D	10	1.0	10	25	75	4	▲
TAKEZO3538-MS100CR015-75-4F-2.5D	10	1.5	10	25	75	4	▲
TAKEZO3538-MS100CR020-75-4F-2.5D	10	2.0	10	25	75	4	▲
TAKEZO3538-MS100CR025-75-4F-2.5D	10	2.5	10	25	75	4	△
TAKEZO3538-MS100CR030-75-4F-2.5D	10	3.0	10	25	75	4	▲
TAKEZO3538-MS100CR002-100-4F-2.5D	10	0.2	10	25	100	4	△
TAKEZO3538-MS100CR003-100-4F-2.5D	10	0.3	10	25	100	4	△
TAKEZO3538-MS100CR005-100-4F-2.5D	10	0.5	10	25	100	4	△
TAKEZO3538-MS100CR010-100-4F-2.5D	10	1.0	10	25	100	4	△
TAKEZO3538-MS100CR015-100-4F-2.5D	10	1.5	10	25	100	4	△
TAKEZO3538-MS100CR020-100-4F-2.5D	10	2.0	10	25	100	4	△
TAKEZO3538-MS100CR025-100-4F-2.5D	10	2.5	10	25	100	4	△
TAKEZO3538-MS100CR030-100-4F-2.5D	10	3.0	10	25	100	4	△
TAKEZO3538-MS120CR005-75-4F-2.5D	12	0.5	12	30	75	4	▲
TAKEZO3538-MS120CR010-75-4F-2.5D	12	1.0	12	30	75	4	▲
TAKEZO3538-MS120CR015-75-4F-2.5D	12	1.5	12	30	75	4	▲
TAKEZO3538-MS120CR020-75-4F-2.5D	12	2.0	12	30	75	4	▲
TAKEZO3538-MS120CR025-75-4F-2.5D	12	2.5	12	30	75	4	△

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B85

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

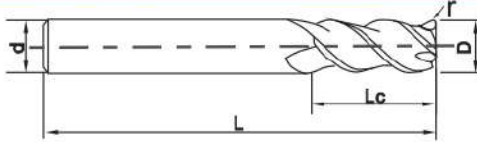
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Variable Lead Corner Radius End Mill(HRC48)



4 FLUTES CORNER RADIUS [2.5D]



	4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS120CR030-75-4F-2.5D	12	3.0	12	30	75	4	▲
TAKEZO3538-MS120CR005-100-4F-2.5D	12	0.5	12	30	100	4	△
TAKEZO3538-MS120CR010-100-4F-2.5D	12	1.0	12	30	100	4	△
TAKEZO3538-MS120CR015-100-4F-2.5D	12	1.5	12	30	100	4	△
TAKEZO3538-MS120CR020-100-4F-2.5D	12	2.0	12	30	100	4	△
TAKEZO3538-MS120CR025-100-4F-2.5D	12	2.5	12	30	100	4	△
TAKEZO3538-MS120CR030-100-4F-2.5D	12	3.0	12	30	100	4	△
TAKEZO3538-MS160CR005-100-4F-2.5D	16	0.5	16	40	100	4	△
TAKEZO3538-MS160CR010-100-4F-2.5D	16	1.0	16	40	100	4	▲
TAKEZO3538-MS160CR015-100-4F-2.5D	16	1.5	16	40	100	4	△
TAKEZO3538-MS160CR020-100-4F-2.5D	16	2.0	16	40	100	4	△
TAKEZO3538-MS160CR025-100-4F-2.5D	16	2.5	16	40	100	4	△
TAKEZO3538-MS160CR030-100-4F-2.5D	16	3.0	16	40	100	4	△
TAKEZO3538-MS160CR005-150-4F-2.5D	16	0.5	16	40	150	4	△
TAKEZO3538-MS160CR010-150-4F-2.5D	16	1.0	16	40	150	4	△
TAKEZO3538-MS160CR015-150-4F-2.5D	16	1.5	16	40	150	4	△
TAKEZO3538-MS160CR020-150-4F-2.5D	16	2.0	16	40	150	4	△
TAKEZO3538-MS160CR025-150-4F-2.5D	16	2.5	16	40	150	4	△
TAKEZO3538-MS160CR030-150-4F-2.5D	16	3.0	16	40	150	4	△

Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B85

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
For General Steels
Cast Irons

TD3941
For General Steels
Cast Irons

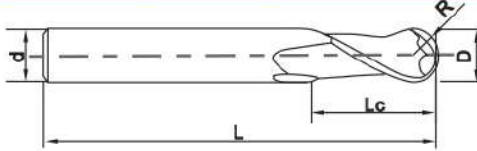
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Variable Lead Ball Nose End Mill(HRC48)



2 FLUTES BALL NOSE [2D]



	2Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3538-MS020B-50-2F-2D	2	1.0	4	4	50	2	▲
TAKEZO3538-MS020B-75-2F-2D	2	1.0	4	4	75	2	△
TAKEZO3538-MS030B-50-2F-2D	3	1.5	4	6	50	2	▲
TAKEZO3538-MS030B-75-2F-2D	3	1.5	4	6	75	2	△
TAKEZO3538-MS040B-50-2F-2D	4	2.0	4	8	50	2	▲
TAKEZO3538-MS040B-75-2F-2D	4	2.0	4	8	75	2	△
TAKEZO3538-MS050B-50-2F-2D	5	2.5	6	10	50	2	▲
TAKEZO3538-MS050B-75-2F-2D	5	2.5	6	10	75	2	△
TAKEZO3538-MS050B-100-2F-2D	5	2.5	6	10	100	2	△
TAKEZO3538-MS060B-50-2F-2D	6	3.0	6	12	50	2	▲
TAKEZO3538-MS060B-75-2F-2D	6	3.0	6	12	75	2	▲
TAKEZO3538-MS060B-100-2F-2D	6	3.0	6	12	100	2	△
TAKEZO3538-MS080B-60-2F-2D	8	4.0	8	16	60	2	▲
TAKEZO3538-MS080B-75-2F-2D	8	4.0	8	16	75	2	△
TAKEZO3538-MS080B-100-2F-2D	8	4.0	8	16	100	2	▲
TAKEZO3538-MS100B-75-2F-2D	10	5.0	10	20	75	2	▲
TAKEZO3538-MS100B-100-2F-2D	10	5.0	10	20	100	2	▲
TAKEZO3538-MS120B-75-2F-2D	12	6.0	12	24	75	2	▲
TAKEZO3538-MS120B-100-2F-2D	12	6.0	12	24	100	2	△
TAKEZO3538-MS160B-100-2F-2D	16	8.0	16	32	100	2	△
TAKEZO3538-MS160B-150-2F-2D	16	8.0	16	32	150	2	△
TAKEZO3538-MS200B-100-2F-2D	20	10.0	20	40	100	2	△
TAKEZO3538-MS200B-150-2F-2D	20	10.0	20	40	150	2	△

Tolerance: R≤1.5 -0.01~0 1.5<R<3 -0.015~0 R≥3 -0.02~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B86

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

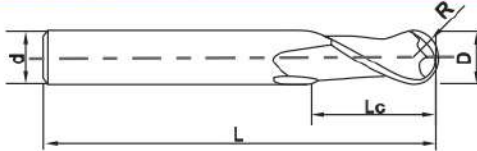
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Variable Lead Ball Nose End Mill(HRC48)



4 FLUTES BALL NOSE [1.5D]



	4Flutes	Cobalt 10%	HRC 48	GS Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
				●	●	●

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 3538-MS040B-50-4F-1.5D	4	2.0	4	6.0	50	4	▲
TAKEZO 3538-MS040B-75-4F-1.5D	4	2.0	4	6.0	75	4	△
TAKEZO 3538-MS050B-50-4F-1.5D	5	2.5	6	7.5	50	4	▲
TAKEZO 3538-MS050B-75-4F-1.5D	5	2.5	6	7.5	75	4	△
TAKEZO 3538-MS050B-100-4F-1.5D	5	2.5	6	7.5	100	4	△
TAKEZO 3538-MS060B-50-4F-1.5D	6	3.0	6	9.0	50	4	▲
TAKEZO 3538-MS060B-75-4F-1.5D	6	3.0	6	9.0	75	4	△
TAKEZO 3538-MS060B-100-4F-1.5D	6	3.0	6	9.0	100	4	△
TAKEZO 3538-MS080B-60-4F-1.5D	8	4.0	8	12.0	60	4	▲
TAKEZO 3538-MS080B-75-4F-1.5D	8	4.0	8	12.0	75	4	△
TAKEZO 3538-MS080B-100-4F-1.5D	8	4.0	8	12.0	100	4	△
TAKEZO 3538-MS100B-75-4F-1.5D	10	5.0	10	15.0	75	4	▲
TAKEZO 3538-MS100B-100-4F-1.5D	10	5.0	10	15.0	100	4	△
TAKEZO 3538-MS120B-75-4F-1.5D	12	6.0	12	18.0	75	4	▲
TAKEZO 3538-MS120B-100-4F-1.5D	12	6.0	12	18.0	100	4	△
TAKEZO 3538-MS160B-100-4F-1.5D	16	8.0	16	24.0	100	4	△
TAKEZO 3538-MS160B-150-4F-1.5D	16	8.0	16	24.0	150	4	△
TAKEZO 3538-MS200B-100-4F-1.5D	20	10.0	20	30.0	100	4	△
TAKEZO 3538-MS200B-150-4F-1.5D	20	10.0	20	30.0	150	4	△

Tolerance: R ≤ 1.5 -0.01~0 1.5 < R < 3 -0.015~0 R ≥ 3 -0.02~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B87

TAKEZO 48
for General Steels
Cast Irons

TAKEZO 3538
for General Steels
Cast Irons

TAKEZO 3638
for Stainless Steels

TAKEZO 3538
for Stainless Steels
Titanium Alloys

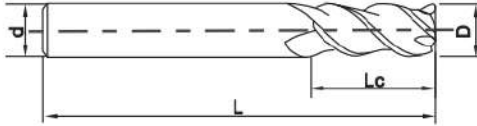
TU45
For General Steels
Cast Irons

TD3941
For General Steels
Cast Irons

TAKEZO 48S/L
for General Steels

TAKEZO 48-E
for General Steels

Variable Lead U-shaped Groove Square End Mill(HRC48)

4 FLUTES SQUARE


 4Flutes	Cobalt 10%	HRC 48	TiSiN Coating	UMG 0.5μm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D (mm)	d (mm)	Lc (mm)	L (mm)	Flutes	Stock
TU45-010S-50-4F	1.0	4	3.0	50	4	▲
TU45-015S-50-4F	1.5	4	4.5	50	4	▲
TU45-020S-50-4F	2.0	4	6.0	50	4	▲
TU45-025S-50-4F	2.5	4	7.5	50	4	▲
TU45-030S-03-50-4F	3.0	3	9.0	50	4	▲
TU45-030S-04-50-4F	3.0	4	9.0	50	4	▲
TU45-030S-06-50-4F	3.0	6	9.0	50	4	▲
TU45-035S-50-4F	3.5	4	10.5	50	4	▲
TU45-040S-04-50-4F	4.0	4	12.0	50	4	▲
TU45-040S-06-50-4F	4.0	6	12.0	50	4	▲
TU45-040S-75-4F	4.0	4	12.0	75	4	▲
TU45-040S-100-4F	4.0	4	12.0	100	4	▲
TU45-050S-50-4F	5.0	6	15.0	50	4	▲
TU45-060S-50-4F	6.0	6	18.0	50	4	▲
TU45-060S-75-4F	6.0	6	18.0	75	4	▲
TU45-060S-100-4F	6.0	6	18.0	100	4	▲
TU45-080S-60-4F	8.0	8	24.0	60	4	▲
TU45-080S-75-4F	8.0	8	24.0	75	4	▲
TU45-080S-100-4F	8.0	8	24.0	100	4	▲
TU45-080S-150-4F	8.0	8	24.0	150	4	▲
TU45-100S-75-4F	10.0	10	30.0	75	4	▲
TU45-100S-100-4F	10.0	10	30.0	100	4	▲
TU45-100S-150-4F	10.0	10	30.0	150	4	▲
TU45-120S-75-4F	12.0	12	30.0	75	4	▲
TU45-120S-100-4F	12.0	12	30.0	100	4	▲
TU45-120S-150-4F	12.0	12	30.0	150	4	▲
TU45-160S-100-4F	16.0	16	48.0	100	4	▲

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B96

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

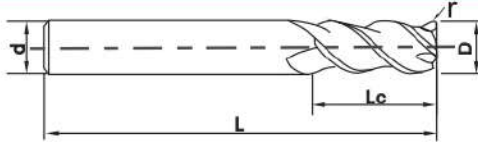
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Variable Lead Double-core End Mill(HRC48)



4 FLUTES CORNER RADIUS



 4Flutes	Cobalt 10%	HRC 48	AlTiN Coating	UMG 0.5μm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D (mm)	r (mm)	d (mm)	Lc (mm)	L (mm)	Flutes	Stock
TD3941-040CR002-50-4F	4	0.2	4	10	50	4	▲
TD3941-060CR002-50-4F	6	0.2	6	15	50	4	▲
TD3941-080CR002-60-4F	8	0.2	8	20	60	4	▲
TD3941-100CR002-75-4F	10	0.2	10	25	75	4	▲
TD3941-120CR002-75-4F	12	0.2	12	30	75	4	▲

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B99

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

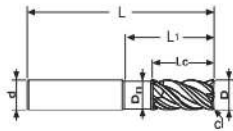
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

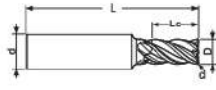
Variable Lead Square End Mill(HRC48)



4 FLUTES SQUARE



Type E



Type F



Form HB



Form HA

 4Flutes	Cobalt 10%	HRC 48	AlCrN Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation			○ 2nd Recommendation			
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	DIN6535 HA/HB	D(mm)	d(mm)	Dn(mm)	Lc(mm)	L1(mm)	L(mm)	CX45°(mm)	Flutes	Type
TAKEZO48S-010SC-40-4F-HA	HA	1	4	-	15	-	40	0.025	4	F
TAKEZO48L-010SC-40-4F-HA	HA	1	4	-	25	-	40	0.025	4	F
TAKEZO48S-020SC-04-40-4F-HA	HA	2	4	-	3	-	40	0.050	4	F
TAKEZO48L-020SC-04-40-4F-HA	HA	2	4	-	4	-	40	0.050	4	F
TAKEZO48L-020SC-06-50-4F-HA	HA	2	6	-	4	-	50	0.050	4	F
TAKEZO48S-030SC-04-40-4F-HA	HA	3	4	2.8	4	6	40	0.075	4	E
TAKEZO48L-030SC-04-40-4F-HA	HA	3	4	2.8	6	9	40	0.075	4	E
TAKEZO48L-030SC-06-50-4F-HA	HA	3	6	2.8	6	9	50	0.075	4	E
TAKEZO48S-040SC-50-4F-HA/HB	HA/HB	4	6	3.8	5	8	50	0.100	4	E
TAKEZO48L-040SC-50-4F-HA/HB	HA/HB	4	6	-	8	-	50	0.100	4	F
TAKEZO48L-040SC-54-4F-HA/HB	HA/HB	4	6	3.8	8	12	54	0.100	4	E
TAKEZO48S-050SC-50-4F-HA/HB	HA/HB	5	6	4.8	6	10	50	0.150	4	E
TAKEZO48L-050SC-54-4F-HA/HB	HA/HB	5	6	4.8	10	15	54	0.150	4	E
TAKEZO48S-060SC-54-4F-HA/HB	HA/HB	6	6	5.7	7	16	54	0.200	4	E
TAKEZO48L-060SC-54-4F-HA/HB	HA/HB	6	6	5.7	13	19	54	0.200	4	E
TAKEZO48S-080SC-58-4F-HA/HB	HA/HB	8	8	7.7	9	20	58	0.200	4	E
TAKEZO48L-080SC-63-4F-HA/HB	HA/HB	8	8	7.7	19	27	63	0.200	4	E
TAKEZO48S-100SC-65-4F-HA/HB	HA/HB	10	10	9.7	11	24	65	0.200	4	E
TAKEZO48L-100SC-72-4F-HA/HB	HA/HB	10	10	9.7	22	32	72	0.200	4	E
TAKEZO48S-120SC-73-4F-HA/HB	HA/HB	12	12	11.7	12	26	73	0.200	4	E
TAKEZO48L-120SC-82-4F-HA/HB	HA/HB	12	12	11.7	26	38	82	0.200	4	E
TAKEZO48S-140SC-75-4F-HA/HB	HA/HB	14	14	13.7	14	28	75	0.300	4	E
TAKEZO48L-140SC-82-4F-HA/HB	HA/HB	14	14	13.7	26	38	82	0.300	4	E
TAKEZO48S-160SC-82-4F-HA/HB	HA/HB	16	16	15.7	16	32	82	0.300	4	E
TAKEZO48L-160SC-92-4F-HA/HB	HA/HB	16	16	15.7	32	44	92	0.300	4	E
TAKEZO48S-180SC-82-4F-HA/HB	HA/HB	18	18	17.7	18	32	82	0.300	4	E
TAKEZO48L-180SC-92-4F-HA/HB	HA/HB	18	18	17.7	32	44	92	0.300	4	E
TAKEZO48S-200SC-92-4F-HA/HB	HA/HB	20	20	19.7	20	40	92	0.300	4	E
TAKEZO48L-200SC-104-4F-HA/HB	HA/HB	20	20	19.7	38	50	104	0.300	4	E

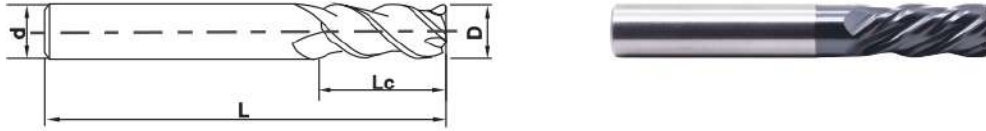
Tolerance: D≤12 -0.02~0 D>12 -0.03~0
Customized Non-standard End Mill Size is Available.

Recommended Cutting Conditions B97

Variable Lead Square End Mill(HRC48)



4 FLUTES SQUARE [Inch]



	4 Flutes	Cobalt 10%	HRC 48	AlCrN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(in)		d(in)	Lc(in)	L(in)	Flutes	Stock
TAKEZO 48-E0125S-015-4F	1/8	0.125	0.125	0.313	1.500	4	▲
TAKEZO 48-E0187S-020-4F	3/16	0.187	0.187	0.469	2.000	4	▲
TAKEZO 48-E0250S-025-4F	1/4	0.250	0.250	0.531	2.500	4	▲
TAKEZO 48-E0375S-030-4F	3/8	0.375	0.375	0.844	3.000	4	▲
TAKEZO 48-E0500S-035-4F	1/2	0.500	0.500	1.094	3.500	4	▲
TAKEZO 48-E0625S-040-4F	5/8	0.625	0.625	1.313	4.000	4	▲
TAKEZO 48-E0750S-040-4F	3/4	0.750	0.750	1.563	4.000	4	▲
TAKEZO 48-E1000S-050-4F	1	1.000	1.000	2.094	5.000	4	▲

Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0
Customized Non-standard End Mill Size is Available.

▲ Stock △ Non-Stock
Recommended Cutting Conditions B97

TAKEZO 48
for General Steels
Cast Irons

TAKEZO 3538
for General Steels
Cast Irons

TAKEZO 3638
for Stainless Steels

TAKEZO 3538
for Stainless Steels
Titanium Alloys

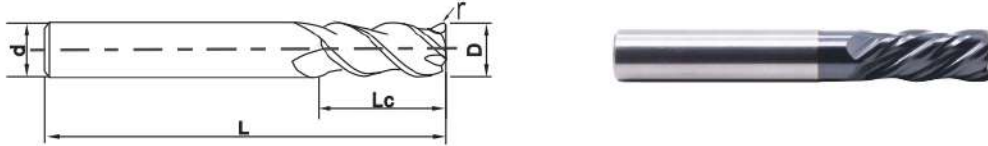
TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

TAKEZO 48S/L
for General Steels

TAKEZO 48-E
for General Steels

Variable Lead Corner Radius End Mill(HRC48)

4 FLUTES CORNER RADIUS [Inch]


 4Flutes	Cobalt 10%	HRC 48	AlCrN Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(in)	r(in)	d(in)	Lc(in)	L(in)	Flutes	Stock
TAKEZO48-E0125CR015-015-4F	1/8	0.125	0.015	0.125	0.313	1.500	▲
TAKEZO48-E0187CR015-020-4F	3/16	0.187	0.015	0.187	0.438	2.000	▲
TAKEZO48-E0250CR015-025-4F	1/4	0.250	0.015	0.250	0.625	2.500	▲
TAKEZO48-E0250CR030-025-4F	1/4	0.250	0.030	0.250	0.625	2.500	▲
TAKEZO48-E0375CR015-025-4F	3/8	0.375	0.015	0.375	0.875	2.500	▲
TAKEZO48-E0375CR030-025-4F	3/8	0.375	0.030	0.375	0.875	2.500	▲
TAKEZO48-E0500CR015-030-4F	1/2	0.500	0.015	0.500	1.125	3.000	▲
TAKEZO48-E0500CR030-030-4F	1/2	0.500	0.030	0.500	1.125	3.000	▲
TAKEZO48-E0500CR060-030-4F	1/2	0.500	0.060	0.500	1.125	3.000	▲
TAKEZO48-E0625CR030-035-4F	5/8	0.625	0.030	0.625	1.313	3.500	▲
TAKEZO48-E0625CR060-035-4F	5/8	0.625	0.060	0.625	1.313	3.500	▲
TAKEZO48-E0750CR030-040-4F	3/4	0.750	0.030	0.750	1.625	4.000	▲
TAKEZO48-E0750CR060-040-4F	3/4	0.750	0.060	0.750	1.625	4.000	▲

Tolerance: D ≤ 12 -0.02~0 D > 12 -0.03~0
 Customized Non-standard End Mill Size is Available.

▲ Stock △ Non-Stock
 Recommended Cutting Conditions B97

 TAKEZO48
 for General Steels
 Cast Irons

 TAKEZO3538
 for General Steels
 Cast Irons

 TAKEZO3638
 for Stainless Steels

 TAKEZO3538
 for Stainless Steels
 Titanium Alloys

 TU45
 for General Steels
 Cast Irons

 TD3941
 for General Steels
 Cast Irons

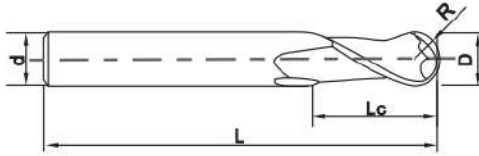
 TAKEZO48S/L
 for General Steels

 TAKEZO48-E
 for General Steels

Ball Nose End Mill (HRC48)



2 FLUTES BALL NOSE [Inch]



	2 Flutes	Cobalt 10%	HRC 48	AlCrN Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(in)		r(in)	d(in)	Lc(in)	L(in)	Flutes	Stock
TAKEZO48-E0063B-020-2F	1/16	0.063	0.031	0.250	0.125	2.000	2	▲
TAKEZO48-E0094B-020-2F	3/32	0.094	0.047	0.250	0.188	2.000	2	▲
TAKEZO48-E0125B-020-2F	1/8	0.125	0.063	0.250	0.250	2.000	2	▲
TAKEZO48-E0187B-020-2F	3/16	0.187	0.094	0.250	0.375	2.000	2	▲
TAKEZO48-E0250B-020-2F	1/4	0.250	0.125	0.250	0.500	2.000	2	▲
TAKEZO48-E0375B-025-2F	3/8	0.375	0.187	0.375	0.750	2.500	2	▲
TAKEZO48-E0500B-030-2F	1/2	0.500	0.250	0.500	1.000	3.000	2	▲
TAKEZO48-E0625B-035-2F	5/8	0.625	0.313	0.625	1.250	3.500	2	▲
TAKEZO48-E0750B-040-2F	3/4	0.750	0.375	0.750	1.500	4.000	2	▲

Tolerance: $R \leq 1.5$ -0.01~0 1.5 < R < 3 -0.015~0 $R \geq 3$ -0.02~0
 Customized Non-standard End Mill Size is Available.

▲ Stock △ Non-Stock
 Recommended Cutting Conditions B94

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

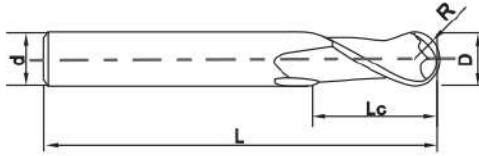
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Ball Nose End Mill(HRC48)



4 FLUTES BALL NOSE [Inch]



4Flutes	Cobalt 10%	HRC 48	AlCrN Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●			○	●	

Order No.	D(in)		r(in)	d(in)	Lc(in)	L(in)	Flutes	Stock
TAKEZO48-E0063B-020-4F	1/16	0.063	0.031	0.250	0.125	2.000	4	▲
TAKEZO48-E0094B-020-4F	3/32	0.094	0.047	0.250	0.188	2.000	4	▲
TAKEZO48-E0125B-020-4F	1/8	0.125	0.063	0.250	0.250	2.000	4	▲
TAKEZO48-E0187B-020-4F	3/16	0.187	0.094	0.250	0.375	2.000	4	▲
TAKEZO48-E0250B-020-4F	1/4	0.250	0.125	0.250	0.500	2.000	4	▲
TAKEZO48-E0375B-025-4F	3/8	0.375	0.187	0.375	0.750	2.500	4	▲
TAKEZO48-E0500B-030-4F	1/2	0.500	0.250	0.500	1.000	3.000	4	▲
TAKEZO48-E0625B-035-4F	5/8	0.625	0.313	0.625	1.250	3.500	4	▲
TAKEZO48-E0750B-040-4F	3/4	0.750	0.375	0.750	1.500	4.000	4	▲

Tolerance: $R \leq 1.5$ -0.01~0 1.5 < R < 3 -0.015~0 $R \geq 3$ -0.02~0
Customized Non-standard End Mill Size is Available.

▲ Stock △ Non-Stock
Recommended Cutting Conditions B100

TAKEZO48
for General Steels
Cast Irons

TAKEZO3538
for General Steels
Cast Irons

TAKEZO3638
for Stainless Steels

TAKEZO3538
for Stainless Steels
Titanium Alloys

TU45
for General Steels
Cast Irons

TD3941
for General Steels
Cast Irons

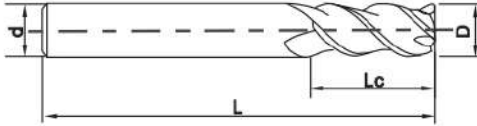
TAKEZO48S/L
for General Steels

TAKEZO48-E
for General Steels

Cermet Square End Mill(HRC48)



4 FLUTES SQUARE



	4Flutes	Cobalt 0%	HRC 48	No Coating	UMG —	Materials Cermet
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●				●	

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TCM45-040S-50-4F	4	4	10	50	4	▲
TCM45-040S-75-4F	4	4	12	75	4	▲
TCM45-050S-50-4F	5	5	12.5	50	4	▲
TCM45-060S-50-4F	6	6	15	50	4	▲
TCM45-060S-75-4F	6	6	18	75	4	▲
TCM45-080S-60-4F	8	8	20	60	4	▲
TCM45-080S-75-4F	8	8	24	75	4	▲
TCM45-080S-100-4F	8	8	24	100	4	▲
TCM45-100S-75-4F	10	10	25	75	4	▲
TCM45-100S-100-4F	10	10	30	100	4	▲
TCM45-120S-75-4F	12	12	30	75	4	▲
TCM45-120S-100-4F	12	12	30	100	4	▲
TCM45-160S-100-4F	16	16	50	100	4	▲

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B98

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

TCM45
for General Steels

ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

Cermet Corner Radius End Mill(HRC48)



4 FLUTES CORNER RADIUS



	4Flutes	Cobalt 0%	HRC 48	No Coating	UMG	Materials Cermet
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●				●	

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TCM45-040CR002-50-4F	4	0.2	4	10	50	4	▲
TCM45-040CR005-50-4F	4	0.5	4	10	50	4	▲
TCM45-040CR010-50-4F	4	1.0	4	10	50	4	▲
TCM45-050CR002-50-4F	5	0.2	5	12.5	50	4	▲
TCM45-050CR005-50-4F	5	0.5	5	12.5	50	4	▲
TCM45-060CR002-50-4F	6	0.2	6	15	50	4	▲
TCM45-060CR005-50-4F	6	0.5	6	15	50	4	▲
TCM45-060CR010-50-4F	6	1.0	6	15	50	4	▲
TCM45-060CR002-75-4F	6	0.2	6	18	75	4	▲
TCM45-060CR005-75-4F	6	0.5	6	18	75	4	▲
TCM45-060CR010-75-4F	6	1.0	6	18	75	4	▲
TCM45-080CR002-60-4F	8	0.2	8	20	60	4	▲
TCM45-080CR005-60-4F	8	0.5	8	20	60	4	▲
TCM45-080CR010-60-4F	8	1.0	8	20	60	4	▲
TCM45-080CR002-75-4F	8	0.2	8	24	75	4	▲
TCM45-080CR005-75-4F	8	0.5	8	24	75	4	▲
TCM45-080CR010-75-4F	8	1.0	8	24	75	4	▲
TCM45-080CR002-100-4F	8	0.2	8	24	100	4	▲
TCM45-080CR005-100-4F	8	0.5	8	24	100	4	▲
TCM45-080CR010-100-4F	8	1.0	8	24	100	4	▲
TCM45-100CR002-75-4F	10	0.2	10	25	75	4	▲
TCM45-100CR005-75-4F	10	0.5	10	25	75	4	▲
TCM45-100CR010-75-4F	10	1.0	10	25	75	4	▲
TCM45-100CR005-100-4F	10	0.5	10	30	100	4	▲
TCM45-100CR010-100-4F	10	1.0	10	30	100	4	▲
TCM45-120CR005-75-4F	12	0.5	12	30	75	4	▲
TCM45-120CR010-75-4F	12	1.0	12	30	75	4	▲
TCM45-120CR005-100-4F	12	0.5	12	30	100	4	▲
TCM45-120CR010-100-4F	12	1.0	12	30	100	4	▲

Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B98

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TD1A
for Graphite

TCM45
for General Steels

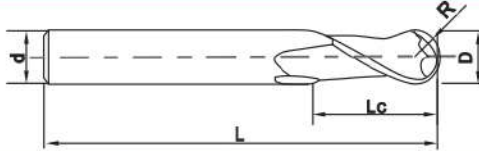
ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

Cermet Ball Nose End Mill(HRC48)



2 FLUTES BALL NOSE



2 Flutes	Cobalt 0%	HRC 48	No Coating	UMG —	Materials Cermet	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cast Iron	Titanium Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
●	●				●	

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TCM45-040B-50-2F	4	2.0	4	8	50	2	▲
TCM45-050B-50-2F	5	2.5	5	10	50	2	▲
TCM45-060B-50-2F	6	3.0	6	12	50	2	▲
TCM45-060B-75-2F	6	3.0	6	12	75	2	▲
TCM45-080B-60-2F	8	4.0	8	16	60	2	▲
TCM45-080B-75-2F	8	4.0	8	16	75	2	▲
TCM45-100B-75-2F	10	5.0	10	20	75	2	▲
TCM45-100B-100-2F	10	5.0	10	20	100	2	▲
TCM45-120B-75-2F	12	6.0	12	24	75	2	▲
TCM45-120B-100-2F	12	6.0	12	24	100	2	▲

Tolerance: R≤1.5 -0.01~0 1.5<R<3 -0.015~0 R≥3 -0.02~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B99

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

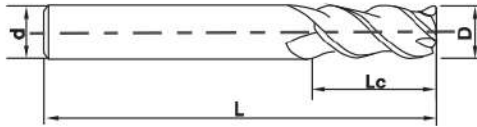
TDIA
for Graphite

TCM45
for General Steels

ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

High Speed and High Hardness Square End Mill(HRC65)


4 FLUTES SQUARE [2.5D]


 4Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO65-H010S-50-4F-2.5D	1.0	4	2.5	50	4	▲
TAKEZO65-H015S-50-4F-2.5D	1.5	4	3.8	50	4	▲
TAKEZO65-H020S-50-4F-2.5D	2.0	4	5.0	50	4	▲
TAKEZO65-H030S-50-4F-2.5D	3.0	4	8.0	50	4	▲
TAKEZO65-H040S-50-4F-2.5D	4.0	4	10.0	50	4	▲
TAKEZO65-H040S-75-4F-2.5D	4.0	4	10.0	75	4	▲
TAKEZO65-H050S-50-4F-2.5D	5.0	6	12.0	50	4	▲
TAKEZO65-H060S-50-4F-2.5D	6.0	6	15.0	50	4	▲
TAKEZO65-H060S-75-4F-2.5D	6.0	6	15.0	75	4	▲
TAKEZO65-H060S-100-4F-2.5D	6.0	6	15.0	100	4	▲
TAKEZO65-H080S-60-4F-2.5D	8.0	8	20.0	60	4	▲
TAKEZO65-H080S-75-4F-2.5D	8.0	8	20.0	75	4	▲
TAKEZO65-H080S-100-4F-2.5D	8.0	8	20.0	100	4	△
TAKEZO65-H100S-75-4F-2.5D	10.0	10	25.0	75	4	▲
TAKEZO65-H100S-100-4F-2.5D	10.0	10	25.0	100	4	▲
TAKEZO65-H120S-75-4F-2.5D	12.0	12	30.0	75	4	▲
TAKEZO65-H120S-100-4F-2.5D	12.0	12	30.0	100	4	▲
TAKEZO65-H160S-100-4F-2.5D	16.0	16	40.0	100	4	△
TAKEZO65-H160S-150-4F-2.5D	16.0	16	40.0	150	4	△
TAKEZO65-H200S-100-4F-2.5D	20.0	20	50.0	100	4	△
TAKEZO65-H200S-150-4F-2.5D	20.0	20	50.0	150	4	△

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B90

 TCM45
 for General Steels

 TAKEZO65
 for Die Steels
 Hardened Steels

 TAKEZO48
 for Non-Ferrous
 Metal

 TAKEZO3839
 for General Steels
 Cast Irons

 TDIA
 for Graphite

 Micro Diameter
 for General Purpose

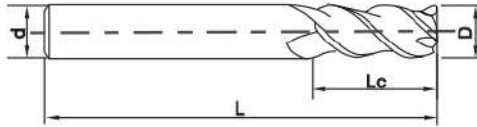
 ZSTNB/ZSTNR
 for General Steels
 Die Steels

 CBN
 High Hardness
 Materials

High Speed and High Hardness Square End Mill(HRC65)



4 FLUTES SQUARE [3D]



	4Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 65-H010S-50-4F-3D	1.0	4	3.0	50	4	△
TAKEZO 65-H015S-50-4F-3D	1.5	4	4.5	50	4	△
TAKEZO 65-H020S-50-4F-3D	2.0	4	6.0	50	4	△
TAKEZO 65-H030S-50-4F-3D	3.0	4	9.0	50	4	△
TAKEZO 65-H040S-50-4F-3D	4.0	4	12.0	50	4	▲
TAKEZO 65-H040S-75-4F-3D	4.0	4	12.0	75	4	△
TAKEZO 65-H050S-50-4F-3D	5.0	6	15.0	50	4	▲
TAKEZO 65-H060S-50-4F-3D	6.0	6	18.0	50	4	▲
TAKEZO 65-H060S-75-4F-3D	6.0	6	18.0	75	4	△
TAKEZO 65-H060S-100-4F-3D	6.0	6	18.0	100	4	△
TAKEZO 65-H080S-60-4F-3D	8.0	8	24.0	60	4	△
TAKEZO 65-H080S-75-4F-3D	8.0	8	24.0	75	4	▲
TAKEZO 65-H080S-100-4F-3D	8.0	8	24.0	100	4	△
TAKEZO 65-H100S-75-4F-3D	10.0	10	30.0	75	4	▲
TAKEZO 65-H100S-100-4F-3D	10.0	10	30.0	100	4	△
TAKEZO 65-H120S-75-4F-3D	12.0	12	36.0	75	4	△
TAKEZO 65-H120S-100-4F-3D	12.0	12	36.0	100	4	△
TAKEZO 65-H160S-100-4F-3D	16.0	16	48.0	100	4	△
TAKEZO 65-H160S-150-4F-3D	16.0	16	48.0	150	4	△
TAKEZO 65-H200S-100-4F-3D	20.0	20	60.0	100	4	△
TAKEZO 65-H200S-150-4F-3D	20.0	20	60.0	150	4	△

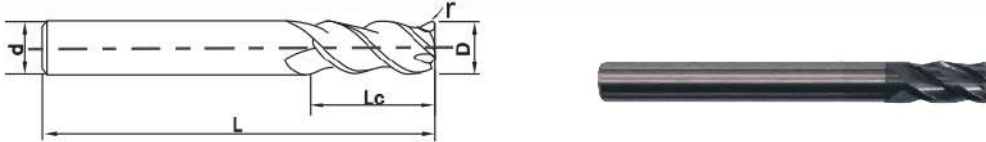
Tolerance: D≤12 -0.02-0 D>12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B90

High Speed and High Hardness Corner Radius End Mill(HRC65)



4 FLUTES CORNER RADIUS [2D]



	4Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 65-H010CR001-50-4F-2D	1.0	0.1	4	2	50	4	▲
TAKEZO 65-H010CR002-50-4F-2D	1.0	0.2	4	2	50	4	▲
TAKEZO 65-H015CR001-50-4F-2D	1.5	0.1	4	3	50	4	▲
TAKEZO 65-H015CR002-50-4F-2D	1.5	0.2	4	3	50	4	▲
TAKEZO 65-H020CR001-50-4F-2D	2.0	0.1	4	4	50	4	▲
TAKEZO 65-H020CR002-50-4F-2D	2.0	0.2	4	4	50	4	▲
TAKEZO 65-H020CR005-50-4F-2D	2.0	0.5	4	4	50	4	▲
TAKEZO 65-H030CR001-50-4F-2D	3.0	0.1	4	6	50	4	△
TAKEZO 65-H030CR002-50-4F-2D	3.0	0.2	4	6	50	4	▲
TAKEZO 65-H030CR003-50-4F-2D	3.0	0.3	4	6	50	4	△
TAKEZO 65-H030CR005-50-4F-2D	3.0	0.5	4	6	50	4	▲
TAKEZO 65-H040CR002-50-4F-2D	4.0	0.2	4	8	50	4	▲
TAKEZO 65-H040CR003-50-4F-2D	4.0	0.3	4	8	50	4	▲
TAKEZO 65-H040CR005-50-4F-2D	4.0	0.5	4	8	50	4	▲
TAKEZO 65-H040CR010-50-4F-2D	4.0	1.0	4	8	50	4	△
TAKEZO 65-H050CR002-50-4F-2D	5.0	0.2	6	10	50	4	△
TAKEZO 65-H050CR003-50-4F-2D	5.0	0.3	6	10	50	4	△
TAKEZO 65-H050CR005-50-4F-2D	5.0	0.5	6	10	50	4	▲
TAKEZO 65-H050CR010-50-4F-2D	5.0	1.0	6	10	50	4	△
TAKEZO 65-H060CR002-50-4F-2D	6.0	0.2	6	12	50	4	▲
TAKEZO 65-H060CR003-50-4F-2D	6.0	0.3	6	12	50	4	▲
TAKEZO 65-H060CR005-50-4F-2D	6.0	0.5	6	12	50	4	▲
TAKEZO 65-H060CR010-50-4F-2D	6.0	1.0	6	12	50	4	▲
TAKEZO 65-H060CR015-50-4F-2D	6.0	1.5	6	12	50	4	△
TAKEZO 65-H060CR002-75-4F-2D	6.0	0.2	6	12	75	4	▲
TAKEZO 65-H060CR003-75-4F-2D	6.0	0.3	6	12	75	4	△
TAKEZO 65-H060CR005-75-4F-2D	6.0	0.5	6	12	75	4	▲
TAKEZO 65-H060CR010-75-4F-2D	6.0	1.0	6	12	75	4	▲
TAKEZO 65-H060CR015-75-4F-2D	6.0	1.5	6	12	75	4	△
TAKEZO 65-H080CR003-60-4F-2D	8.0	0.3	8	16	60	4	△

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B90

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-Ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

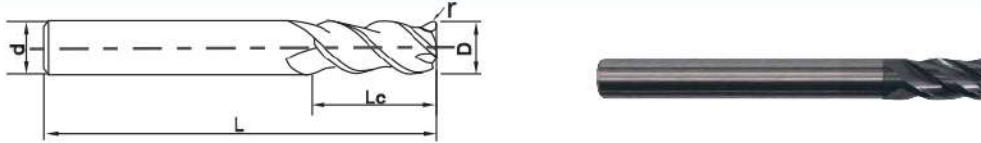
ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

High Speed and High Hardness Corner Radius End Mill(HRC65)



4 FLUTES CORNER RADIUS [2D]



	4 Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 65-H080CR005-60-4F-2D	8	0.5	8	16	60	4	▲
TAKEZO 65-H080CR010-60-4F-2D	8	1.0	8	16	60	4	▲
TAKEZO 65-H080CR015-60-4F-2D	8	1.5	8	16	60	4	△
TAKEZO 65-H080CR020-60-4F-2D	8	2.0	8	16	60	4	△
TAKEZO 65-H080CR003-75-4F-2D	8	0.3	8	16	75	4	△
TAKEZO 65-H080CR005-75-4F-2D	8	0.5	8	16	75	4	▲
TAKEZO 65-H080CR010-75-4F-2D	8	1.0	8	16	75	4	▲
TAKEZO 65-H080CR015-75-4F-2D	8	1.5	8	16	75	4	△
TAKEZO 65-H080CR020-75-4F-2D	8	2.0	8	16	75	4	△
TAKEZO 65-H100CR002-75-4F-2D	10	0.2	10	20	75	4	△
TAKEZO 65-H100CR003-75-4F-2D	10	0.3	10	20	75	4	△
TAKEZO 65-H100CR005-75-4F-2D	10	0.5	10	20	75	4	▲
TAKEZO 65-H100CR010-75-4F-2D	10	1.0	10	20	75	4	▲
TAKEZO 65-H100CR015-75-4F-2D	10	1.5	10	20	75	4	△
TAKEZO 65-H100CR020-75-4F-2D	10	2.0	10	20	75	4	△
TAKEZO 65-H100CR025-75-4F-2D	10	2.5	10	20	75	4	△
TAKEZO 65-H100CR030-75-4F-2D	10	3.0	10	20	75	4	△
TAKEZO 65-H100CR002-100-4F-2D	10	0.2	10	20	100	4	△
TAKEZO 65-H100CR003-100-4F-2D	10	0.3	10	20	100	4	△
TAKEZO 65-H100CR005-100-4F-2D	10	0.5	10	20	100	4	▲
TAKEZO 65-H100CR010-100-4F-2D	10	1.0	10	20	100	4	▲
TAKEZO 65-H100CR015-100-4F-2D	10	1.5	10	20	100	4	△
TAKEZO 65-H100CR020-100-4F-2D	10	2.0	10	20	100	4	△
TAKEZO 65-H100CR025-100-4F-2D	10	2.5	10	20	100	4	△
TAKEZO 65-H100CR030-100-4F-2D	10	3.0	10	20	100	4	△
TAKEZO 65-H120CR005-75-4F-2D	12	0.5	12	24	75	4	▲
TAKEZO 65-H120CR010-75-4F-2D	12	1.0	12	24	75	4	▲
TAKEZO 65-H120CR015-75-4F-2D	12	1.5	12	24	75	4	△
TAKEZO 65-H120CR020-75-4F-2D	12	2.0	12	24	75	4	△
TAKEZO 65-H120CR025-75-4F-2D	12	2.5	12	24	75	4	△
TAKEZO 65-H120CR030-75-4F-2D	12	3.0	12	24	75	4	△

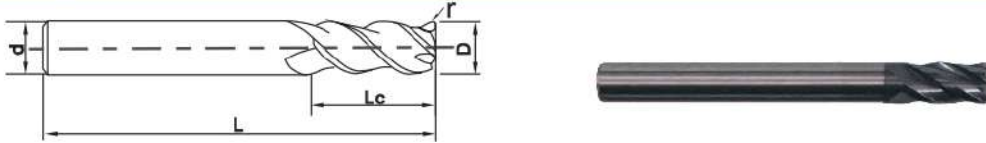
Tolerance: D ≤ 12 -0.02-0 D > 12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B90

High Speed and High Hardness Corner Radius End Mill(HRC65)



4 FLUTES CORNER RADIUS [2D]



	4Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 65-H120CR005-100-4F-2D	12	0.5	12	24	100	4	▲
TAKEZO 65-H120CR010-100-4F-2D	12	1.0	12	24	100	4	▲
TAKEZO 65-H120CR015-100-4F-2D	12	1.5	12	24	100	4	△
TAKEZO 65-H120CR020-100-4F-2D	12	2.0	12	24	100	4	△
TAKEZO 65-H120CR025-100-4F-2D	12	2.5	12	24	100	4	△
TAKEZO 65-H120CR030-100-4F-2D	12	3.0	12	24	100	4	△
TAKEZO 65-H160CR005-100-4F-2D	16	0.5	16	32	100	4	△
TAKEZO 65-H160CR010-100-4F-2D	16	1.0	16	32	100	4	△
TAKEZO 65-H160CR015-100-4F-2D	16	1.5	16	32	100	4	△
TAKEZO 65-H160CR020-100-4F-2D	16	2.0	16	32	100	4	△
TAKEZO 65-H160CR025-100-4F-2D	16	2.5	16	32	100	4	△
TAKEZO 65-H160CR030-100-4F-2D	16	3.0	16	32	100	4	△
TAKEZO 65-H160CR005-150-4F-2D	16	0.5	16	32	150	4	△
TAKEZO 65-H160CR010-150-4F-2D	16	1.0	16	32	150	4	△
TAKEZO 65-H160CR015-150-4F-2D	16	1.5	16	32	150	4	△
TAKEZO 65-H160CR020-150-4F-2D	16	2.0	16	32	150	4	△
TAKEZO 65-H160CR025-150-4F-2D	16	2.5	16	32	150	4	△
TAKEZO 65-H160CR030-150-4F-2D	16	3.0	16	32	150	4	△

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B90

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-Ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

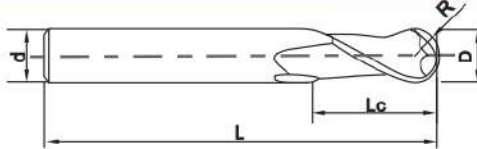
ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

High Speed and High Hardness Ball Nose End Mill(HRC65)



2 FLUTES BALL NOSE [1.5D]



	2Flutes	Cobalt 10%	HRC 65	ALDUA Coating	UMG 0.5μm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys
<HRC35	HRC32-48	HRC48-55	HRC55-65			
	●	●	●			

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO 65-H020B-50-2F-1.5D	2	1.0	4	3.0	50	2	▲
TAKEZO 65-H020B-75-2F-1.5D	2	1.0	4	3.0	75	2	△
TAKEZO 65-H030B-50-2F-1.5D	3	1.5	4	4.5	50	2	▲
TAKEZO 65-H030B-75-2F-1.5D	3	1.5	4	4.5	75	2	△
TAKEZO 65-H040B-50-2F-1.5D	4	2.0	4	6.0	50	2	▲
TAKEZO 65-H040B-75-2F-1.5D	4	2.0	4	6.0	75	2	△
TAKEZO 65-H050B-50-2F-1.5D	5	2.5	6	7.5	50	2	▲
TAKEZO 65-H050B-75-2F-1.5D	5	2.5	6	7.5	75	2	△
TAKEZO 65-H050B-100-2F-1.5D	5	2.5	6	7.5	100	2	△
TAKEZO 65-H060B-50-2F-1.5D	6	3.0	6	9.0	50	2	▲
TAKEZO 65-H060B-75-2F-1.5D	6	3.0	6	9.0	75	2	▲
TAKEZO 65-H060B-100-2F-1.5D	6	3.0	6	9.0	100	2	△
TAKEZO 65-H080B-60-2F-1.5D	8	4.0	8	12.0	60	2	▲
TAKEZO 65-H080B-75-2F-1.5D	8	4.0	8	12.0	75	2	▲
TAKEZO 65-H080B-100-2F-1.5D	8	4.0	8	12.0	100	2	▲
TAKEZO 65-H100B-75-2F-1.5D	10	5.0	10	15.0	75	2	▲
TAKEZO 65-H100B-100-2F-1.5D	10	5.0	10	15.0	100	2	▲
TAKEZO 65-H120B-75-2F-1.5D	12	6.0	12	18.0	75	2	▲
TAKEZO 65-H120B-100-2F-1.5D	12	6.0	12	18.0	100	2	▲
TAKEZO 65-H160B-100-2F-1.5D	16	8.0	16	24.0	100	2	△
TAKEZO 65-H160B-150-2F-1.5D	16	8.0	16	24.0	150	2	△
TAKEZO 65-H200B-100-2F-1.5D	20	10.0	20	30.0	100	2	△
TAKEZO 65-H200B-150-2F-1.5D	20	10.0	20	30.0	150	2	△

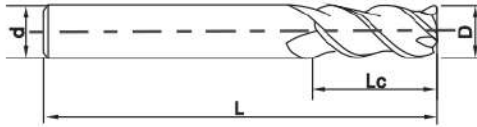
Tolerance: R<1.5 -0.01~0 1.5<R<3 -0.015~0 R>3 -0.02~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B90

Square End Mill(HRC48)



3 FLUTES SQUARE



	3Flutes	Cobalt 10%	HRC 48	No Coating	MG 0.8µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Aluminium Alloys	Copper Alloys
<HRC35	<HRC48	HRC46-55	HRC55-60			
					●	○

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-020AL-50-3F	2	4	6	50	3	▲
TAKEZO48-030AL-50-3F	3	4	9	50	3	▲
TAKEZO48-040AL-50-3F	4	4	11	50	3	▲
TAKEZO48-050AL-50-3F	5	6	13	50	3	▲
TAKEZO48-060AL-50-3F	6	6	16	50	3	▲
TAKEZO48-080AL-60-3F	8	8	20	60	3	▲
TAKEZO48-100AL-75-3F	10	10	25	75	3	▲
TAKEZO48-120AL-75-3F	12	12	30	75	3	▲

Tolerance: D≤12 -0.02~0 D>12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B88

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

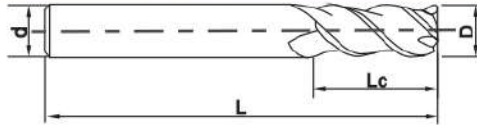
ZSTN/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

Square End Mill(HRC48)



3 FLUTES TAC COATING SQUARE [3D]



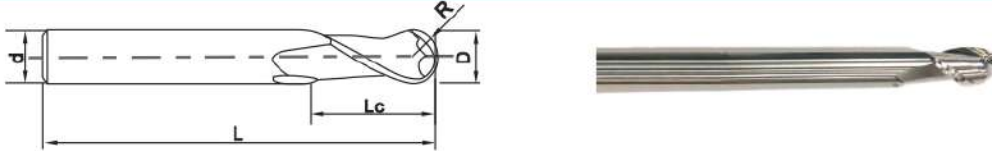
	3Flutes	Cobalt 10%	HRC 48	TAC Coating	MG 0.8µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Aluminium Alloys	Copper Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
					●	●

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-C010AL-50-3F-3D	1.0	4	3.0	50	3	▲
TAKEZO48-C015AL-50-3F-3D	1.5	4	4.5	50	3	▲
TAKEZO48-C020AL-50-3F-3D	2.0	4	6.0	50	3	▲
TAKEZO48-C030AL-50-3F-3D	3.0	4	9.0	50	3	▲
TAKEZO48-C040AL-50-3F-3D	4.0	4	12.0	50	3	▲
TAKEZO48-C040AL-75-3F-3D	4.0	4	12.0	75	3	▲
TAKEZO48-C050AL-50-3F-3D	5.0	6	15.0	50	3	▲
TAKEZO48-C060AL-50-3F-3D	6.0	6	18.0	50	3	▲
TAKEZO48-C060AL-75-3F-3D	6.0	6	18.0	75	3	△
TAKEZO48-C060AL-100-3F-3D	6.0	6	18.0	100	3	▲
TAKEZO48-C080AL-60-3F-3D	8.0	8	24.0	60	3	▲
TAKEZO48-C080AL-75-3F-3D	8.0	8	24.0	75	3	△
TAKEZO48-C080AL-100-3F-3D	8.0	8	24.0	100	3	△
TAKEZO48-C100AL-75-3F-3D	10.0	10	30.0	75	3	▲
TAKEZO48-C100AL-100-3F-3D	10.0	10	30.0	100	3	△
TAKEZO48-C120AL-75-3F-3D	12.0	12	36.0	75	3	▲
TAKEZO48-C120AL-100-3F-3D	12.0	12	36.0	100	3	▲
TAKEZO48-C160AL-100-3F-3D	16.0	16	48.0	100	3	△
TAKEZO48-C160AL-150-3F-3D	16.0	16	48.0	150	3	△
TAKEZO48-C200AL-100-3F-3D	20.0	20	60.0	100	3	△
TAKEZO48-C200AL-150-3F-3D	20.0	20	60.0	150	3	△

Tolerance: D≤12 -0.02-0 D>12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B89

Ball Nose End Mill(HRC48)


2 FLUTES BALL NOSE [1.5D]


	2Flutes	Cobalt 10%	HRC 48	No Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Aluminium Alloys	Copper Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
					●	●

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-010ALB-50-2F-1.5D	1.0	0.50	4	1.5	50	2	△
TAKEZO48-015ALB-50-2F-1.5D	1.5	0.75	4	2.3	50	2	△
TAKEZO48-020ALB-50-2F-1.5D	2.0	1.00	4	3.0	50	2	▲
TAKEZO48-030ALB-50-2F-1.5D	3.0	1.50	4	4.5	50	2	△
TAKEZO48-040ALB-50-2F-1.5D	4.0	2.00	4	6.0	50	2	▲
TAKEZO48-060ALB-50-2F-1.5D	6.0	3.00	6	9.0	50	2	△
TAKEZO48-060ALB-75-2F-1.5D	6.0	3.00	6	9.0	75	2	▲
TAKEZO48-080ALB-60-2F-1.5D	8.0	4.00	8	12.0	60	2	△
TAKEZO48-080ALB-75-2F-1.5D	8.0	4.00	8	12.0	75	2	▲
TAKEZO48-080ALB-100-2F-1.5D	8.0	4.00	8	12.0	100	2	△
TAKEZO48-100ALB-75-2F-1.5D	10.0	5.00	10	15.0	75	2	▲
TAKEZO48-100ALB-100-2F-1.5D	10.0	5.00	10	15.0	100	2	△
TAKEZO48-120ALB-75-2F-1.5D	12.0	6.00	12	18.0	75	2	△
TAKEZO48-120ALB-100-2F-1.5D	12.0	6.00	12	18.0	100	2	▲

Tolerance: R≤3 ±0.015 R>3 ±0.02

 ▲ Stock △ Non-Stock
 Recommended Cutting Conditions B88

 TCM45
 for General Steels

 TAKEZO65
 for Die Steels
 Hardened Steels

 TAKEZO48
 for Non-ferrous
 Metal

 TAKEZO3839
 for General Steels
 Cast Irons

 TDIA
 for Graphite

 Micro Diameter
 for General Purpose

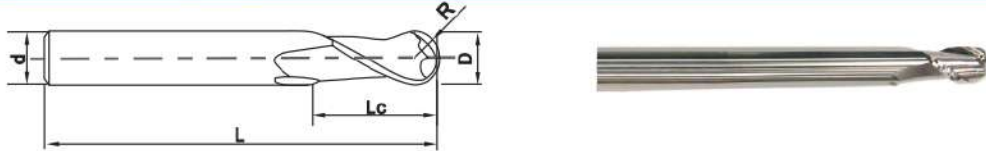
 ZSTNB/ZSTNR
 for General Steels
 Die Steels

 CBN
 High Hardness
 Materials

Ball Nose End Mill(HRC48)



2 FLUTES BALL NOSE [2D]



	Cobalt 10%	HRC 48	No Coating	UMG 0.5µm	Materials Carbide	
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Aluminium Alloys	Copper Alloys
<HRC35	<HRC48	HRC48-55	HRC55-60			
					●	●

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO48-010ALB-50-2F-2D	1.0	0.50	4	2	50	2	▲
TAKEZO48-015ALB-50-2F-2D	1.5	0.75	4	3	50	2	▲
TAKEZO48-020ALB-50-2F-2D	2.0	1.00	4	4	50	2	▲
TAKEZO48-030ALB-50-2F-2D	3.0	1.50	4	6	50	2	▲
TAKEZO48-040ALB-50-2F-2D	4.0	2.00	4	8	50	2	▲
TAKEZO48-060ALB-50-2F-2D	6.0	3.00	6	12	50	2	▲
TAKEZO48-060ALB-75-2F-2D	6.0	3.00	6	12	75	2	△
TAKEZO48-080ALB-60-2F-2D	8.0	4.00	8	16	60	2	▲
TAKEZO48-080ALB-75-2F-2D	8.0	4.00	8	16	75	2	△
TAKEZO48-080ALB-100-2F-2D	8.0	4.00	8	16	100	2	△
TAKEZO48-100ALB-75-2F-2D	10.0	5.00	10	20	75	2	▲
TAKEZO48-100ALB-100-2F-2D	10.0	5.00	10	20	100	2	△
TAKEZO48-120ALB-75-2F-2D	12.0	6.00	12	24	75	2	▲
TAKEZO48-120ALB-100-2F-2D	12.0	6.00	12	24	100	2	△

Tolerance: R ≤ 3 ±0.015 R > 3 ±0.02

▲ Stock △ Non-Stock
Recommended Cutting Conditions B88

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

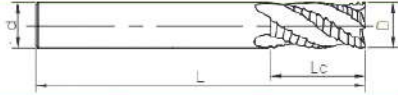
ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

Variable Lead Roughing (HRC55)



4 FLUTES ROUGHING



	4Flutes	Cobalt 10%	HRC 55	TiAlN Coating	UMG 0.6µm	Carbide Materials	
● 1st Recommendation		○ 2nd Recommendation					
Carbon Steel Cast Iron	Alloy Steel	Hardened Steel	Hardened Steel	Stainless Steel	Heat Resistant Material	Titanium Alloys	
<HRC35	<HRC48	HRC48-55	HRC55-65				
●	●	●					

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TAKEZO3839-060R-S-4F	6	6	15	50	4	▲
TAKEZO3839-080R-S-4F	8	8	20	60	4	▲
TAKEZO3839-100R-S-4F	10	10	30	75	4	▲
TAKEZO3839-120R-S-4F	12	12	32	75	4	▲
TAKEZO3839-160R-S-4F	16	16	45	100	4	▲
TAKEZO3839-200R-S-4F	20	20	50	100	4	▲

Tolerance: D ≤ 8 0~0.01 D > 8 0~0.02

▲ Stock △ Non-Stock
 Recommended Cutting Conditions B91

 TCM45
 for General Steels

 TAKEZO65
 for Die Steels
 Hardened Steels

 TAKEZO48
 for Non-Ferrous
 Metal

 TAKEZO3839
 for General Steels
 Cast Irons

 TDIA
 for Graphite

 Micro Diameter
 for General Purpose

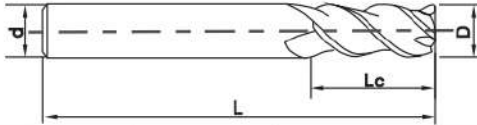
 ZSTNB/ZSTNR
 for General Steels
 Die Steels

 CBN
 High Hardness
 Materials

Diamond Coating Square End Mill



4 FLUTES SQUARE



	4Flutes	Cobalt 10%	HRC 48	Diamond Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Graphite	Aluminum
<HRC35	HRC32-48	HRC48-55	HRC55-65			
					●	○

Order No.	D(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TDIA-010S-50-4F	1	4	3	50	4	▲
TDIA-020S-50-4F	2	4	6	50	4	▲
TDIA-030S-50-4F	3	4	9	50	4	▲
TDIA-040S-50-4F	4	4	12	50	4	▲
TDIA-040S-60-4F	4	4	12	60	4	▲
TDIA-040S-75-4F	4	4	12	75	4	▲
TDIA-040S-100-4F	4	4	20	100	4	▲
TDIA-060S-50-4F	6	6	20	50	4	▲
TDIA-060S-60-4F	6	6	20	60	4	▲
TDIA-060S-75-4F	6	6	25	75	4	▲
TDIA-060S-100-4F	6	6	30	100	4	▲
TDIA-060S-150-4F	6	6	40	150	4	▲
TDIA-080S-50-4F	8	8	20	50	4	▲
TDIA-080S-60-4F	8	8	20	60	4	▲
TDIA-080S-75-4F	8	8	30	75	4	▲
TDIA-080S-100-4F	8	8	30	100	4	▲
TDIA-080S-150-4F	8	8	40	150	4	▲
TDIA-100S-60-4F	10	10	25	60	4	▲
TDIA-100S-75-4F	10	10	30	75	4	▲
TDIA-100S-100-4F	10	10	30	100	4	▲
TDIA-100S-150-4F	10	10	40	150	4	▲
TDIA-120S-100-4F	12	12	40	100	4	▲
TDIA-120S-150-4F	12	12	50	150	4	▲
TDIA-120S-180-4F	12	12	50	180	4	▲

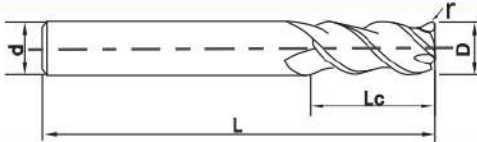
Tolerance: D<6 -0.02~0 6≤D≤12 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B110

Diamond Coating Corner Radius End Mill



4 FLUTES CORNER RADIUS



	4Flutes	Cobalt 10%	HRC 48	Diamond Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Graphite	Aluminum
<HRC35	HRC32-48	HRC48-55	HRC55-65			
					●	○

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TDIA-030CR002-60-4F	3	0.2	3	10	60	4	▲
TDIA-030CR002-75-4F	3	0.2	3	10	75	4	▲
TDIA-030CR002-100-4F	3	0.2	3	10	100	4	▲
TDIA-030CR003-60-4F	3	0.3	3	10	60	4	▲
TDIA-030CR005-60-4F	3	0.5	3	10	60	4	▲
TDIA-030CR005-75-4F	3	0.5	3	10	75	4	▲
TDIA-030CR005-100-4F	3	0.5	3	10	100	4	▲
TDIA-040CR001-40-4F	4	0.1	4	6	40	4	▲
TDIA-040CR002-50-4F	4	0.2	4	6	50	4	▲
TDIA-040CR002-60-4F	4	0.2	4	12	60	4	▲
TDIA-040CR002-75-4F	4	0.2	4	20	75	4	▲
TDIA-040CR002-100-4F	4	0.2	4	20	100	4	▲
TDIA-040CR005-50-4F	4	0.5	4	6	50	4	▲
TDIA-040CR005-60-4F	4	0.5	4	12	60	4	▲
TDIA-040CR005-75-4F	4	0.5	4	12	75	4	▲
TDIA-040CR005-100-4F	4	0.5	4	20	100	4	▲
TDIA-060CR003-75-4F	6	0.3	6	20	75	4	▲
TDIA-060CR003-100-4F	6	0.3	6	30	100	4	▲
TDIA-060CR005-60-4F	6	0.5	6	20	60	4	▲
TDIA-060CR005-75-4F	6	0.5	6	20	75	4	▲
TDIA-060CR005-100-4F	6	0.5	6	25	100	4	▲
TDIA-080CR003-75-4F	8	0.3	8	25	75	4	▲
TDIA-080CR003-100-4F	8	0.3	8	30	100	4	▲

Tolerance: D < 6 -0.02-0 6 ≤ D ≤ 12 -0.03-0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B110

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-Ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

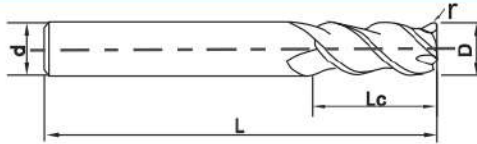
ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials

Diamond Coating Corner Radius End Mill



4 FLUTES CORNER RADIUS



	4Flutes	Cobalt 10%	HRC 48	Diamond Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Graphite	Aluminum
<HRC35	HRC32-48	HRC48-55	HRC55-65			
					●	○

Order No.	D(mm)	r(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TDIA-080CR005-75-4F	8	0.5	8	30	75	4	▲
TDIA-080CR005-100-4F	8	0.5	8	30	100	4	▲
TDIA-080CR005-150-4F	8	0.5	8	40	150	4	▲
TDIA-100CR005-75-4F	10	0.5	10	25	75	4	▲
TDIA-100CR005-100-4F	10	0.5	10	30	100	4	▲
TDIA-100CR005-150-4F	10	0.5	10	40	150	4	▲
TDIA-120CR005-100-4F	12	0.5	12	30	100	4	▲
TDIA-120CR005-150-4F	12	0.5	12	40	150	4	▲

Tolerance: D < 6 -0.02~0 6 ≤ D ≤ 12 -0.03~0

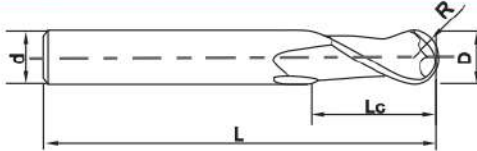
▲ Stock △ Non-Stock
Recommended Cutting Conditions B110

TCM45 for General Steels
TAKEZO65 for Die Steels Hardened Steels
TAKEZO48 for Non-ferrous Metal
TAKEZO3839 for General Steels Cast Irons
TDIA for Graphite
Micro Diameter for General Purpose
ZSTNB/ZSTNR for General Steels Die Steels
CBN High Hardness Materials

Diamond Coating Ball Nose End Mill



2 FLUTES BALL NOSE



	2Flutes	Cobalt 10%	HRC 48	Diamond Coating	UMG 0.5µm	Materials Carbide
● 1st Recommendation		○ 2nd Recommendation				
Carbon Steel Cast Iron	Die Steel	Hardened Steel	Hardened Steel	Stainless Steel	Graphite	Aluminum
<HRC35	HRC32-48	HRC48-55	HRC55-65			
					●	○

Order No.	D(mm)	R(mm)	d(mm)	Lc(mm)	L(mm)	Flutes	Stock
TDIA-030B-50-2F	3	1.5	3	6	50	2	▲
TDIA-030B-60-2F	3	1.5	3	6	60	2	▲
TDIA-030B-75-2F	3	1.5	3	6	75	2	▲
TDIA-030B-100-2F	3	1.5	3	6	100	2	▲
TDIA-040B-50-2F	4	2.0	4	8	50	2	▲
TDIA-040B-60-2F	4	2.0	4	8	60	2	▲
TDIA-040B-75-2F	4	2.0	4	8	75	2	▲
TDIA-040B-100-2F	4	2.0	4	10	100	2	▲
TDIA-060B-60-2F	6	3.0	6	12	60	2	▲
TDIA-060B-75-2F	6	3.0	6	12	75	2	▲
TDIA-060B-100-2F	6	3.0	6	16	100	2	▲
TDIA-060B-150-2F	6	3.0	6	20	150	2	▲
TDIA-080B-75-2F	8	4.0	8	16	75	2	▲
TDIA-080B-100-2F	8	4.0	8	16	100	2	▲
TDIA-080B-150-2F	8	4.0	8	30	150	2	▲
TDIA-100B-100-2F	10	5.0	10	20	100	2	▲
TDIA-100B-150-2F	10	5.0	10	30	150	2	▲
TDIA-120B-100-2F	12	6.0	12	30	100	2	▲
TDIA-120B-150-2F	12	6.0	12	30	150	2	▲

Tolerance: R<3 -0.02~0 3≤R≤6 -0.03~0

▲ Stock △ Non-Stock
Recommended Cutting Conditions B110

TCM45
for General Steels

TAKEZO65
for Die Steels
Hardened Steels

TAKEZO48
for Non-Ferrous
Metal

TAKEZO3839
for General Steels
Cast Irons

TDIA
for Graphite

Micro Diameter
for General Purpose

ZSTNB/ZSTNR
for General Steels
Die Steels

CBN
High Hardness
Materials