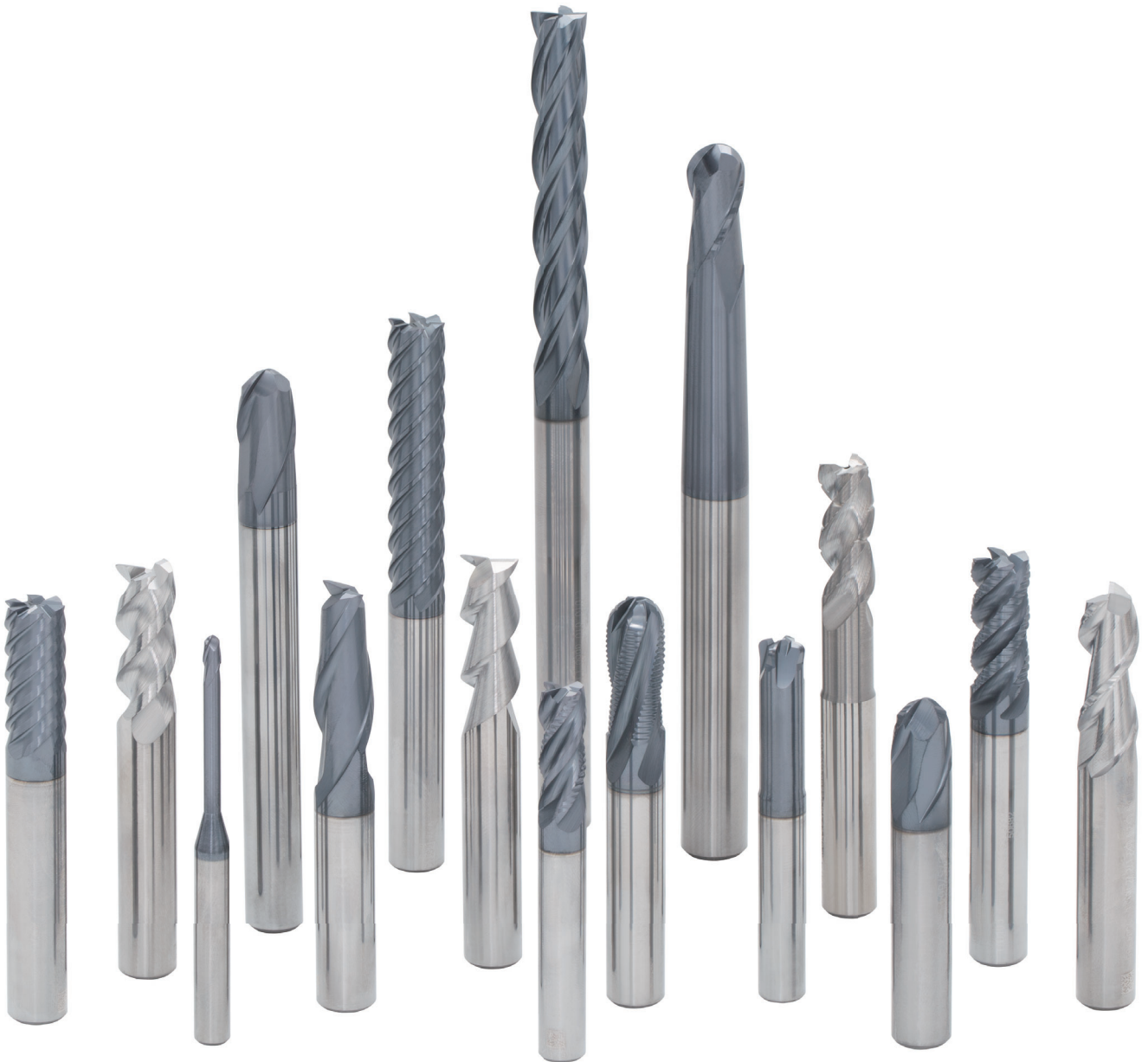


Endmill



EndMill - Content structure

- Products are listed by application.
- Endmills in the catalog are our standard stock items.

How to use the page

Method 1.

Select the tool type at the index on the right page, choose the application (1), cutting edge shape (2), and the number of cutting edges (3), and check the designation you need (6) in the dimension table (5).

TUNGMEISTER
VBD** - BG... , VBE** - BG...

Ball nose head with 4 ground flutes for finishing (TungMeister)

Designation	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wre
VEE006L05.0-BG-04505	●	4	30°	6	8	5.5	2.987	S05	10	KEY
VEE006L05.0-BG-04525	●	4	30°	9	7.7	5	2.922	S05	10	KEY
VED120L07.0-BG-04506	●	4	30°	10	9.7	7	4.982	S06	13	KEY
VED120L09.0-BG-04508	●	4	30°	12	11.7	9	5.978	S08	16.5	KEY
VED160L12.0-BG-04510	●	4	30°	16	16.3	12	7.878	S10	20.5	KEY
VED200L16.0-BG-04512	●	4	30°	20	19.3	15	9.972	S12	25.5	KEY
VED250L22.0-BG-04515	●	4	30°	25	23.9	22	12.470	S15	37	KEY

TUNGMEISTER
VBB** - SG...

Flute ball nose head, with spherical designed edge (TungMeister)

Designation	AH725	NOF	FHA	DC	DCSFMS	APMX	CRKS	LF	Wre
VEE100L08.0-SG-02505	●	2	0°	10	7.5	7.5	S05	10	KEY
VEE110L09.0-SG-02508	●	2	0°	12	9.5	9	S05	11.6	KEY
VEE160L12.0-SG-02508	●	2	0°	16	12.2	12	S08	15.4	KEY
VEE200L16.1-SG-02510	●	2	0°	20	15.2	15	S10	18.4	KEY

Method 2.

Select the tool series name on I004 – I005 and check the details on the product page.

Main products

Solid Endmill

SOLIDMEISTER I006 - I059
Solid endmill for a wide variety of applications
ø 0.4 mm - ø 25 mm

Indexable Endmill

TUNGMEISTER I060 - I091
Endmills with exchangeable heads for reduced tool change time
ø 6 mm - ø 25 mm

EVX I092 - I093
Multi-functional endmill in large diameter
ø 16 mm - ø 63 mm / max. ap 15 mm

ECC I094 - I095
Chamfering endmill for large length
ø 34 mm - ø 59 mm

ECP I096
Chamfering endmill for small length
ø 10 mm - ø 36 mm

TCB I097 - I101
Counterboring tool for flat bottom finish
ø 10 mm - ø 59 mm

I004 www.tungaloy.com

Method 3.

Select the application and the cutting edge shape from Quick Guide on I006-I013 and I060 - I061, and see the details on each page.

Quick Guide **SOLIDMEISTER**

Edge shape	Designation	Name of the series	Appearance	Application
TEC**H45/M**CF-E	VARIABLEMEISTER			★ ☆
TEC**E4L**CF	VARIABLEMEISTER			★ ☆
TEC**E5L**CF	VARIABLEMEISTER			★ ☆
TEC**H2**CF	VARIABLEMEISTER			★
TEC**H1**CF	VARIABLEMEISTER			★
TECK**HM**CF-R	VARIABLEMEISTER			★ ☆
TECK**HM**CF-R°C	VARIABLEMEISTER			★ ☆
TECK**H2/M**CF-R	VARIABLEMEISTER			★
Square TEC**HM**CF-R	VARIABLEMEISTER			★ ☆
TEC**H4L**CF-R	VARIABLEMEISTER			★ ☆
TEC**H4X**CF-R	VARIABLEMEISTER			★ ☆
TEC**H5M**CF-R	VARIABLEMEISTER			★ ☆
TEFS**E44**CF	VARIABLEMEISTER			★ ☆
TEFS**B44	PDSMEISTER			★ ☆
TEFS**B44°C	PDSMEISTER			★ ☆
TECR**B5	SPMEISTER			★
TECR**B1M	SPMEISTER			★

I006 www.tungaloy.com

Icon

Edge shape	No. of cutting edges	Application
Square	2	Shoulder milling
High feed	3	Deep shoulder milling
Ball nose	4	Shoulder milling (with radius)
	5	Face milling
	6 or more	Slotting
		Slotting (with radius)
		Side slotting
		Side milling
		Pocketing
		Ramping
		Profiling
		Plunging
		Hole enlarging
		Holemaking
		Counterboring
		Hole chamfering
		Chamfering
		Cutting-off

4 TUNGMEISTER
VBDBG... VBE**BG...**

Ball nose head with 4 ground flutes for finishing (TungMeister)

7

Designation	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wrench	Torque*
VBE08L05.0-BG-04S05	●	4	30°	5	8	5.5	2.982"	S05	10	KEYV-S05	7
VBE08L05.0-BG-04S05	●	4	30°	8	7.7	5	3.982"	S05	10	KEYV-S05	7
VBE120L07.0-BG-04S06	●	4	30°	10	9.7	7	4.982"	S06	13	KEYV-S06	10
VBE120L09.0-BG-04S08	●	4	30°	12	11.7	9	5.978"	S08	16.5	KEYV-S08	15
VBE160L12.0-BG-04S10	●	4	30°	16	15.3	12	7.978"	S10	20.5	KEYV-S10	28
VBE200L15.0-BG-04S12	●	4	30°	20	18.3	15	9.972"	S12	25.5	KEYV-S12	28
VBE250L22.0-BG-04S15	●	4	30°	25	23.3	19	12.470"	S15	37	KEYV-W05	40

RE tolerance: (1) ± 0.01 (2) ± 0.012 (3) ± 0.02
* Recommended clamping torque (N·m) 2 pieces per package, VBE250: 1 piece per package

6 TUNGMEISTER
VBBSG...**

2 flute ball nose head, with spherical designed edge (TungMeister)

5

Designation	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wrench	Torque*
VBB100L08.0-SG-02S05	●	2	0°	10	7.6	7.5	S05	10	KEYV-S05	7	
VBB100L08.0-SG-02S06	●	2	0°	12	9.5	9	S06	11.8	KEYV-S08	10	
VBB160L12.0-SG-02S08	●	2	0°	16	12.2	12	S08	15.4	KEYV-S10	15	
VBB200L16.1-SG-02S10	●	2	0°	20	15.2	15	S10	18.4	KEYV-S10	28	

Also available in full cutting on the vertical shaft
* The wrench size for these heads is different from the ones for the other head types.
* Recommended clamping torque (N·m) 2 pieces per package

10 TUNGMEISTER
VBEBGA...**

Ball nose head with 2 ground flutes for aluminium machining (TungMeister)

8

Designation	KS15F	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wrench	Torque*
VBE08L05.0-BGA02S05	●	2	45°	5	7.7	5	3.982"	S05	10	KEYV-S05	7
VBE100L07.0-BGA02S06	●	2	45°	10	9.7	7	4.982"	S06	13	KEYV-S06	10
VBE120L09.0-BGA02S08	●	2	45°	12	11.7	9	5.982"	S08	16.5	KEYV-S08	15
VBE160L12.0-BGA02S10	●	2	45°	16	15.3	12	7.978"	S10	20.5	KEYV-S10	28
VBE200L15.0-BGA02S12	●	2	45°	20	18.3	15	9.972"	S12	25.5	KEYV-S12	28

RE tolerance: (1) ± 0.01 (2) ± 0.012 * Recommended clamping torque (N·m) 2 pieces per package

9 STANDARD CUTTING CONDITIONS

Counter boring (VGC)

ISO	Workpiece material	Hardness	Cutting speed Vc (m/min)	Feed per tooth fz (mm/rev)
P	Low carbon steels SAE10, SAE15, etc. CR12, SAE5, etc. High carbon steels SCM415, SCR15, etc. 42CrMo4, 15Cr3, etc.	- 300 HB	40 - 80	0.04 - 0.08
	Phosphorized steels PMS, NAK50, etc.	30 - 40 HRC	20 - 30	0.04 - 0.08
M	Stainless steels SUS304, SUS316, etc. XSCNi18-0, XSCNiMo17-12-2, etc.	- 200 HB	15 - 25	0.04 - 0.08
K	Cast iron FC250, FC300, etc. 250, 300, etc. Ductile cast iron FC400, etc. 40D-150, etc.	150 - 250 HB	60 - 100	0.05 - 0.09
	Titanium alloys Ti-6Al-4V, etc.	-	15 - 25	0.04 - 0.07
S	Heat resistant alloys Inconel 718, etc.	-	10 - 20	0.03 - 0.06
H	Hardened steel SKD51, SKT4, etc. M40CrMnS1, SPM3AM09, etc. SKD11, SKH, etc. X153C-MnV12, HSiB-0-1, etc.	40 - 50 HRC	15 - 25	0.04 - 0.07
		50 - 60 HRC	10 - 20	0.03 - 0.06

- 1** : Application
- 2** : Cutting edge shape
- 3** : Number of cutting edges
- 4** : Endmill series name
- 5** : Dimension table
- 6** : Endmill designation
- 7** : Dimension drawing (conforming to ISO13399)
- 8** : Spare parts
- 9** : Standard cutting conditions
- 10** : Reference page

Machining accuracy

F	Finishing
M	Medium cutting
R	Roughing
	Coolant hole

Workpiece material

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Superalloy
H	Hard material

When ordering

- Please specify the designation and quantity for solid or brazed endmills.
e.g. **TEFS100E44-22C10CF72** ... 1 (one solid endmill per package)
- Please specify the designation and quantity for TungMeister heads.
e.g. **VEE08L05.0R00-3S05** ... 2 (two heads per package)
- Please specify the designation and quantity for TungMeister shanks.
e.g. **VSSD08L060805-S** ... 1 (one shank per package)

*Wrenches for TungMeister are sold separately.

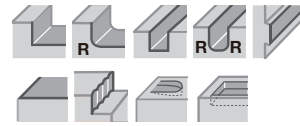
Main products

Solid Endmill



SOLIDMEISTER

Solid endmill for a wide variety of applications
 $\varnothing 0.4 \text{ mm} - \varnothing 25 \text{ mm}$



I006 - I059

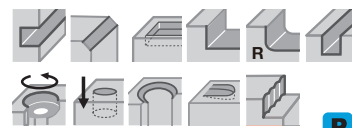
P M K N S H

Indexable Endmill



TUNGMEISTER

Endmills with exchangeable heads
 for reduced tool change time
 $\varnothing 6 \text{ mm} - \varnothing 25 \text{ mm}$



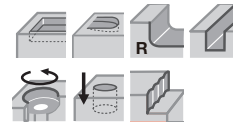
I060 - I091

P M K N S H



EVX

Multi-functional endmill in larger diameter
 $\varnothing 16 \text{ mm} - \varnothing 63 \text{ mm} / \text{max. ap } 15 \text{ mm}$



I092 - I093

P M K



ECC

Chamfering endmill for large length
 $\varnothing 34 \text{ mm} - \varnothing 55 \text{ mm}$



I094 - I095

P M K



ECP

Chamfering endmill for small length
 $\varnothing 10 \text{ mm} - \varnothing 36 \text{ mm}$



I096

P K



TCB

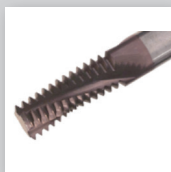
Counterboring tool for flat bottom finish
 $\varnothing 10 \text{ mm} - \varnothing 59 \text{ mm}$



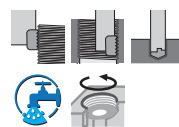
I097 - I101

P M K

Threading Endmill

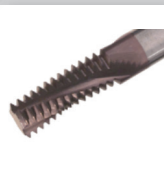


THREADMILLING



I102

P M K N S H



SOLIDTHREAD

Solid threading tool series for machining small diameters, such as M1x0.25 and 0-80UNF.

I103 - I121



TUNGMEISTER

Head-changeable milling tool for less down-time than solid tapping tools.

I116 - I119



Indexable thread milling cutter

Many different types of inserts for various threading diameters and pitches, leading to the tool integration and reduced tool cost.







I122 - I127

Grade
Insert
Ext. Toolholder
Int. Toolholder
Threading
Grooving
Miniature tool
Milling cutter
Endmill
Drilling tool
Tooling System
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Quick Guide **SOLIDMEISTER**

★ : First choice
☆ : Second choice

Edge shape	Designation	Name of the series	Appearance	Application		
				Finishing	Medium cutting	Roughing
				F	M	R
	TEC**H4S/M**CF-E	VARIABLEMEISTER			★	☆
	TEC**E4L**CF	VARIABLEMEISTER			★	☆
	TEC**E5L**CF	VARIABLEMEISTER			★	☆
	TEC**H7-CF	VARIABLEMEISTER		★		
	TEC**H**CF	VARIABLEMEISTER		★		
	TECK**H4M**CF-R	VARIABLEMEISTER			★	☆
	TECK**H4M**CF-R**C	VARIABLEMEISTER			★	☆
	TECK**H7/9M**CF-R	VARIABLEMEISTER		★		
 Square	TEC**H4M**CF-R	VARIABLEMEISTER			★	☆
	TEC**H4L**CF-R	VARIABLEMEISTER			★	☆
	TEC**H4X**CF-R	VARIABLEMEISTER			★	☆
	TEC**H5M**CF-R	VARIABLEMEISTER			★	☆
	TEFS**E44**CF	VARIABLEMEISTER FINISHMEISTER			★	☆
	TEFS**B44	FINISHMEISTER			★	☆
	TEFS**B44**C	FINISHMEISTER			★	☆
	TECR**B*S	SHREDMEISTER				★
	TECR**B*M	SHREDMEISTER				★

	Feature	Edge shape	Tool diameter	No. of cutting edges	ap	Helix angle	Workpiece material						Page
							P	M	K	N	S	H	
	All round / Variable helix, Variable pitch	Chamfered / Corner radius	ø6 - ø20	4	1D, 2D	Variable	★	★	★	☆	☆	☆	I017
	All round / Variable pitch	Chamfered	ø1 - ø25	4	2D	38	★	★	★	☆	☆	☆	I018
	All round / Variable pitch	Chamfered	ø6 - ø20	5	2.5D	38	★	★	★	☆	☆	☆	I018
	All round / Variable helix, Variable pitch	Chamfered / Corner radius	ø6 - ø20	7	2D-6D	Variable	★	★	★	☆	☆	★	I019
	All round / Variable helix, Variable pitch	Chamfered	ø6 - ø20	6-20	2D	Variable	★	★	★	☆	☆	☆	I020
	All round / Variable helix, Variable pitch	Corner radius	ø4 - ø20	4	2D	Variable	★	★	☆	☆	★	☆	I020
	All round / Variable helix, Variable pitch	Corner radius	ø6 - ø16	4	2D	Variable	★	★	☆	☆	★	☆	I021
	All round / Variable helix, Variable pitch	Corner radius	ø6 - ø20	7, 9	2D	Variable	★	★	☆	☆	★	☆	I021
	All round / Variable helix, Variable pitch	Corner radius	ø6 - ø25	4	2D	Variable	★	★	☆	☆	★	☆	I022
	All round / Variable helix, Variable pitch	Corner radius	ø1 - ø20	4	2D	Variable	★	★	☆	☆	★	★	I022
	All round / Variable helix, Variable pitch	Corner radius	ø6 - ø20	4	2D	Variable	★	★	☆	☆	★	☆	I023
	All round / Variable helix, Variable pitch	Corner radius	ø4 - ø20	5	2D	Variable	★	★	☆	☆	★	☆	I023
	All round / Variable pitch, Edge combination	Chamfered	ø6 - ø25	4	2D	38	★	☆	★	☆	☆	☆	I025
	All round / Edge combination	Chamfered	ø4 - ø25	4	2D	45	★	★	☆	☆	★	☆	I026
	All round / Edge combination	Chamfered	ø6 - ø16	4	2D	45	★	★	☆	☆	★	☆	I026
	All round / Serrated cutting edge	Chamfered	ø5 - ø20	4,5,7	1D	45	★	☆	★	☆	☆	★	I027
	All round / Serrated cutting edge	Chamfered / Corner radius	ø5 - ø20	4,5,7	2D	45	★	☆	★	☆	☆	★	I027

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

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Quick Guide **SOLIDMEISTER**★ : First choice
☆ : Second choice

Edge shape	Designation	Name of the series	Appearance	Application		
				Finishing	Medium cutting	Roughing
				F	M	R
	TECR**B*MF	SHREDMEISTER				★
	TECR**B*L	SHREDMEISTER				★
	TECR**B*X	SHREDMEISTER				★
	TERF**A/E	SHREDMEISTER				★
	TECR**T4M	SHREDMEISTER				★
	TECP**H4L**CFR	SHREDMEISTER VARIABLEMEISTER				★
	TECP**E*L	SHREDMEISTER				★
	TEC**B4/6L	SOLIDMEISTER		★		
Square	TEC**B4/6X	SOLIDMEISTER		★		
	TECC**A/B2	SOLIDMEISTER		★	☆	☆
	TECS/TECCS**E3	SOLIDMEISTER		★	☆	☆
	TECC**B/E3	SOLIDMEISTER		★	☆	☆
	TEC**B3	SOLIDMEISTER			★	☆
	TECC**A/B4	SOLIDMEISTER		★	☆	☆
	TEC**B4	SOLIDMEISTER		★	☆	
	TEC**B4**R	SOLIDMEISTER		★	☆	
	TEFF**N4	FEEDMEISTER				★
High feed						

	Feature	Edge shape	Tool diameter	No. of cutting edges	ap	Helix angle	Workpiece material						Page
							P	M	K	N	S	H	
	All round / Serrated cutting edge	Chamfered	ø6 - ø25	4, 6	2D	45	★	☆	☆	☆	★	★	I028
	All round / Serrated cutting edge	Chamfered	ø6 - ø20	4, 5, 7	3D	45	★	☆	★	☆	☆	★	I028
	All round / Serrated cutting edge / Long neck	Chamfered	ø8 - ø16	4, 5	1.5D	45	★	☆	★	☆	☆	★	I028
	All round / Serrated cutting edge	Chamfered	ø4 - ø20	3, 4	2D	30/38	★	☆	★	☆	☆	★	I029
	All round / Serrated cutting edge	Chamfered	ø6 - ø20	4	2D	20	★	☆	★	☆	☆	★	I029
	All round / Chip splitter, Variable helix, Variable pitch	Corner radius	ø6 - ø20	4	2D	Variable	★	☆	★	☆	☆	★	I030
	All round / Chip splitter	Chamfered	ø5 - ø20	3, 4	2D	38	★	☆	★	☆	☆	★	I030
	All round	Corner radius 0	ø6 - ø20	4, 6	3D, 4D	45	★	★	★	☆	☆	☆	I032
	All round	Corner radius 0	ø10 - ø20	4, 6	4D, 5D, 6D	45	★	★	★	☆	☆	☆	I032
	All round	Chamfered	ø2 - ø20	2	2D, 3D	30/45	★	★	★	☆	☆	☆	I033
	All round	Chamfered	ø2 - ø16	3	1D	38	★	★	★	☆	☆	☆	I033
	All round	Chamfered	ø2 - ø20	3	2D, 3D	38/45	★	★	★	☆	☆	☆	I034
	All round	Corner radius 0	ø3 - ø18	3	2D, 3D	45	★	★	★	☆	☆	☆	I034
	All round	Chamfered	ø2 - ø20	4	2D, 3D	30/45	★	★	★	☆	☆	☆	I035
	All round	Corner radius 0	ø2 - ø20	4	2D, 3D	45	★	★	★	☆	☆	☆	I035
	All round	Corner radius	ø6 - ø20	4	2D	45	★	★	★	☆	☆	☆	I036
	All round / High feed geometry	-	ø6 - ø20	4	0.05D	-	★	★	☆	☆	★	★	I036

Grade

Insert

Toolholder

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System
















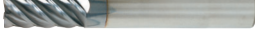


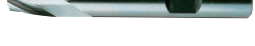
User's Guide

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Quick Guide **SOLIDMEISTER**

★ : First choice
☆ : Second choice

Edge shape	Designation	Name of the series	Appearance	Application		
				Finishing	Medium cutting	Roughing
				F	M	R
 High feed	TCFF**A3	FEEDMEISTER				★
	Toroidal TETR**A2**R	SOLIDMEISTER				★
	TECA**H3**CF-R	VARIABLEMEISTER			★	☆
	TECA**H4**CF-R	VARIABLEMEISTER			★	☆
	TECA**B2	SOLIDMEISTER		★	☆	☆
	TECA**B3	SOLIDMEISTER			★	☆
	TECA**F2	SOLIDMEISTER		★	☆	☆
	TECA**H3**CFR**C	VARIABLEMEISTER			★	☆
	TEAP**H3**CFR**C	VARIABLEMEISTER SHREDMEISTER				★
 Square	TERC**E3	SHREDMEISTER				★
	TECR**B3**R	SHREDMEISTER				★
	TEC**A2	SOLIDMEISTER			★	
	TEC**A4	SOLIDMEISTER			★	☆
	TECH**B6	SOLIDMEISTER		★		
	TEC**B6	SOLIDMEISTER		★		
	TEC**D6	SOLIDMEISTER		★		
	TEC**A2**E	ECOMEISTER			★	☆

	Feature	Edge shape	Tool diameter	No. of cutting edges	ap	Helix angle	Workpiece material						Page
							P	M	K	N	S	H	
	All round / High feed geometry (ceramic)	-	ø4 - ø20	3	0.25-1D	-			☆	☆	★		I037
	All round	Corner radius	ø2 - ø10	2	0.5D, 1D	-	★	★	☆	☆	★	★	I038
	All round / Variable helix, Variable pitch	Corner radius	ø1 - ø25	3	1.5D, 2D	Variable	☆	☆	☆	★	☆	☆	I038
	All round / Variable helix / Relieved neck	Corner radius	ø6 - ø16	4	1.5D, 2D	Variable	☆	☆	☆	★	☆	☆	I040
	All round	Corner radius 0	ø4 - ø20	2	2D, 3D	45	☆	☆	☆	★	☆	☆	I040
	All round	Corner radius	ø4 - ø20	3	2D, 3D	45	☆	☆	☆	★	☆	☆	I041
	All round	Corner radius 0	ø4 - ø25	2	2D	55	☆	☆	☆	★	☆	☆	I041
	All round / Variable helix	Corner radius	ø6 - ø25	3	2D	Variable	☆	☆	☆	★	☆	☆	I042
	All round / Variable helix, Chip splitter / Long neck	Corner radius	ø10 - ø20	3	1.5D, 2D	Variable	☆	☆	☆	★	☆	☆	I042
	All round / Serrated cutting edge	Chamfered	ø6 - ø25	3	2D	38	☆	☆	☆	★	☆	☆	I043
	All round / Serrated cutting edge	Corner radius	ø6 - ø20	3	1D	45	☆	☆	☆	★	☆	☆	I043
	All round	Corner radius 0	ø0.4 - ø3	2	1.5D	30	★	☆	★	☆	☆	★	I044
	All round	Corner radius 0	ø4 - ø20	4	2D	30	★	☆	★	☆	☆	★	I045
	All round	Corner radius 0	ø6 - ø20	6	2D	45	★	☆	★	☆	☆	★	I046
	All round	Corner radius 0	ø6 - ø25	6	4D	45	★	☆	★	☆	☆	★	I046
	All round	Corner radius 0	ø6 - ø20	6	2D	50	★	☆	★	☆	☆	★	I047
	All round	Corner radius 0	ø1 - ø20	2	1D, 1.5D, 2D, 3D, 4D	30	★	★	★	☆	☆	☆	I047

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System










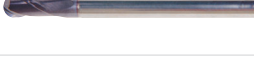
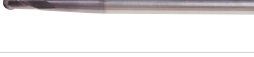

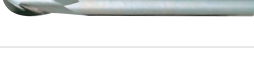

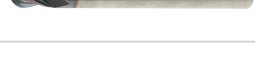
User's Guide

Index



Quick Guide **SOLIDMEISTER**

★ : First choice
☆ : Second choice

Edge shape	Designation	Name of the series	Appearance	Application		
				Finishing	Medium cutting	Roughing
				F	M	R
 Square	TEC**A/E3**E	ECOMEISTER			★	☆
	TEC**B3**W	ECOMEISTER			★	☆
	TEC**A4**E	ECOMEISTER			★	☆
 Ball	TEB**E4L**CF	VARIABLEMEISTER			★	☆
	TEBRF**T3/4	SHREDMEISTER				★
	TEB**A2-**C**M	SOLIDMEISTER		★	☆	
	TEB**A2-**C**H	SOLIDMEISTER		★	☆	
	TEB**A2-**C**M...	SOLIDMEISTER		★	☆	
	TEB**A2-**C**M...	SOLIDMEISTER		★	☆	
	TEB**A2-**C**-...	SOLIDMEISTER		★	☆	
	TEB**A2**E	ECOMEISTER			★	
	TEB**A3	SOLIDMEISTER		★	☆	
	TEB**A4	SOLIDMEISTER		★	☆	

	Feature	Edge shape	Tool diameter	No. of cutting edges	ap	Helix angle	Workpiece material						Page
							P	M	K	N	S	H	
	All round	Corner radius 0	ø2 - ø16	3	1D, 1.5D, 2D, 3D, 4D	30/38	★	★	★	☆	☆	☆	I048
	All round	Corner radius 0	ø2 - ø20	3	1D	45	★	★	★	☆	☆	☆	I049
	All round	Corner radius 0	ø2 - ø20	4	2D, 3D, 4D, 5D, 6D, 8D, 10D	30	★	★	★	☆	☆	☆	I050
	All round / Variable pitch	R1.5-R8	ø3 - ø16	4	2D	38	★	★	☆	☆	★	★	I052
	All round / Serrated cutting edge	R3-R10	ø6 - ø20	3, 4	2D	20	★	★	★	☆	☆	★	I052
	All round	R0.2-R1.5	ø0.4 - ø3	2	1.5D	30	★	★	☆	☆	★	★	I053
	All round	R0.5-R10	ø1 - ø20	2	1D	30	★	★	☆	☆	★	★	I054
	All round	R1.5-R8	ø3 - ø16	2	2D	30	★	★	☆	☆	★	★	I055
	All round / Tapered neck	R0.5-R6	ø1 - ø12	2	2D	30	★	★	☆	☆	★	★	I055
	All round	R1.5-R8	ø3 - ø16	2	1, 1.5D	30	★	★	☆	☆	★	★	I056
	All round	R1-R10	ø2 - ø20	2	1D, 1.5D, 2D, 3D	30	★	★	☆	☆	★	★	I056
	All round	R1.5-R6	ø3 - ø12	3	1.5D	30	★	★	☆	☆	★	★	I057
	All round	R1.5-R10	ø3 - ø20	4	1D, 1.5D	30	★	★	☆	☆	★	★	I057



C	Square endmill
CK	Square endmill for Ti
CA	Square endmill for aluminium
CC	Square endmill with chamfered
CH	Square endmill for finishing
B	Ball nose
FF	High feed
FS	FINISHMEISTER
CP	Chip splitter
CR/RC/RF	Rougher
TR	Tapered & radius
BRF	Ball nose & rougher

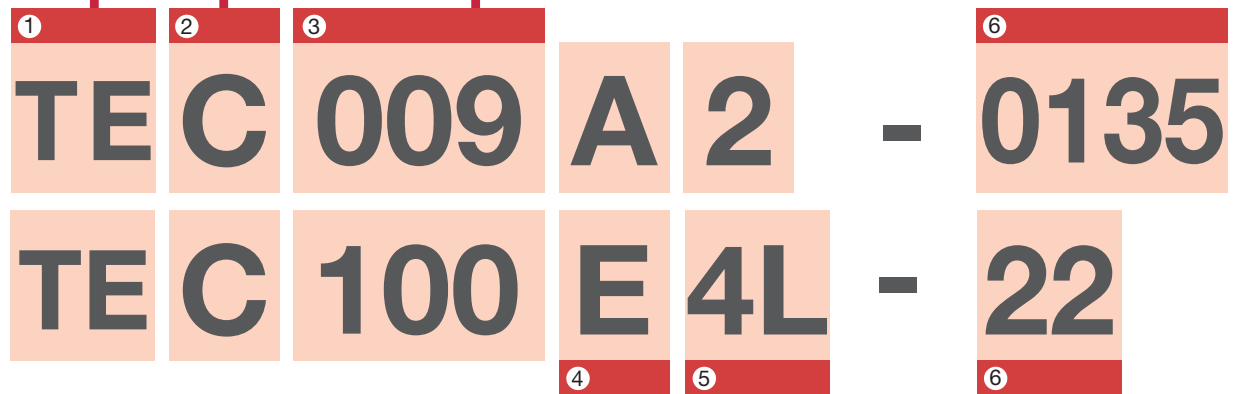
TE	Solid Carbide
TC	Ceramic

004	0.4
045	4.5
100	10

① Endmill Code

② Endmill type

③ Cutting diameter (mm)



④ Helix angle	
N	0°
C	10°
T	20°
A	30°
E	38°
B	45°
D	50°
F	55°
H	Variable helix

⑤ No. of flutes	
2	2 flutes
3	3 flutes
4	4 flutes
4M	4 flutes & medium length
4L	4 flutes & long length
4X	4 flutes & extra long length
4MF	4 flutes & medium length for hardened steel
44	4 variable pitch flutes

⑥ Effective cutting length (mm)	
006	0.6
0135	1.35
06	6
20	20

AH725

- High thermal and chemical stability.
- High hardness 3500 HV makes higher speeds, machining of harder materials, and dry machining possible. The TiAlN coating can be applied at 800° C.
- Recommended for hardened steel, high-temperature and steel alloys.
- Improves and expedites finishing on dies and molds.
- Longer tool life in high speed machining.

AH750 / AH710

- Excellent for machining hard steel up to 70 HRC and high temperature alloys.
- The small grain size improves cutting edge strength and tends to chip less.

Tolerance

Diameter range	Cutting diameter DC ^{e8}	Shank DCONMS ^{h6}
< 3	-0.014 - 0.028	0 - 0.007
3 - 6	-0.02 - 0.038	0 - 0.008
6 - 10	-0.025 - 0.047	0 - 0.009
10 - 18	-0.032 - 0.059	0 - 0.011
18 - 30	-0.04 - 0.073	0 - 0.013

/04	4
/10 /1.5	10 / 1.5°
/14	14

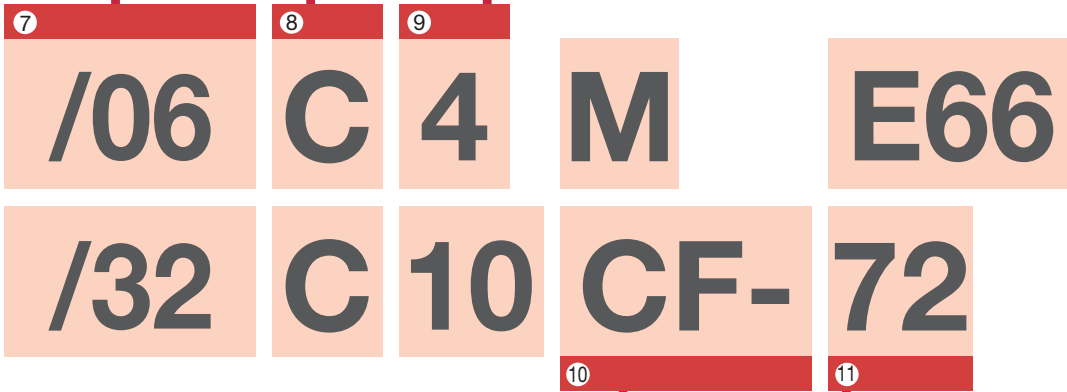
C	Cylindrical
W	Weldon

055	5.5
08	8
4	4

7 Length of neck / Angle neck (mm)

8 Shank type

9 Shank diameter (mm)



10 Workpiece material / Additional feature	
-	General
S	Stainless steel
M	Steel medium hardness ≤ 55 HRC
H	Steel high hardness ≥ 55 HRC
R02A	Aluminium
CF	VARIABLEMEISTER
R16	Corner radius: 1.6

11 Overall length / Corner radius	
66	66 mm
180	180 mm
E**	Eco type
M	Medium
R08	Corner radius: 0.8

KS15F

- Suited for aluminum alloys and non-ferrous metals.
- Excellent edge sharpness for super mirror surface finish quality.

FX510

- Suitable for nickel-based heat-resistant superalloys.
- SiAlON ceramic grade enables high speed milling.
- Also good for cast iron and specialty graphite materials.

SOLIDMEISTER



Powerful endmill with excellent performance

VariableMeister

High resistance to chatter leading to highly efficient machining

- Suitable for machining large cutting depth and width where chattering is likely to occur.
- Capability of machining with long overhang allows the operations on various parts of workpieces.

Stable, long tool life

- Impacts on cutting edges are softened due to reduced vibration, resulting in longer, stable tool life.
- The combination of PVD coated grade with high wear resistance and robust substance.

FinishMeister

Tool integration / Shortened tool change time

- Cutting depth at the level of roughing endmills is possible, and a single tool can handle semi-finishing to finishing with the conditions appropriately adjusted.
- A single tool completes the operation which used to require two tools, roughing and square endmills. shortening tool change time.

Hard to chatter, excellent chip control

- Variable pitch design increases the resistance to chatter, delivering high efficiency in machining with long overhang and at high cutting speed.
- Serrated cutting edges produce small chips and provide stable machining even in slotting.

ShredMeister

Significantly reduced time for roughing

- Long cutting edge and the capability of machining large depth of cut lead to highly efficient roughing.
- Unique serrated cutting edges produce small chips and provide high efficiency and stability in deep slotting.

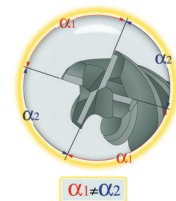
Excellent sharpness and stable machining with long tool life

- Chamfer on corner tips that are easy to break is reinforced, providing stable machining even under high cutting conditions.
- The combination of PVD coated grade with high wear resistance and robust substance allows the design with high helix angle, providing excellent sharpness and long tool life.

VARIABLEMEISTER



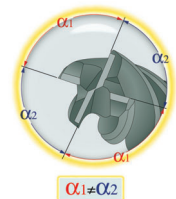
High resistance to chatter
= Machining large cutting width
= Machining large cutting depth / long overhang



FINISHMEISTER



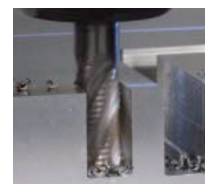
Roughing and finishing with one tool
+ Variable pitch design



SHREDMEISTER



Effective cutting edge length
= Tool diameter x 2



Reference pages: **I017 - I059**