

PROMOTIONS 2021-2022

FREE LOCAL DELIVERY

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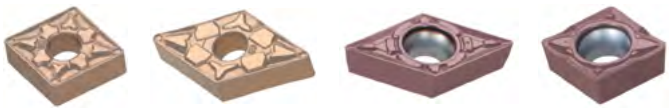
GROOVING & CUT-OFF **FREE HOLDERS** **PAGES: 2-6**



GROOVING - INTERNAL **FREE HOLDERS** **PAGE: 3**



TURNING INSERTS **SAVE 55%** **PAGES: 7-10**



MILLING - HIGH FEED **FREE CUTTERS** **PAGE: 11**



MILLING - SMALL DIA. **FREE CUTTERS** **PAGE: 12**



MILLING - MAX. RIDGIDITY **FREE CUTTERS** **PAGE: 13**



DRILLING **SAVE 52.5%** **PAGE: 14**



INTERCHANGEABLE HEADS **FREE HOLDERS** **PAGES: 15-19**





ADDF^{ORCUT} EXCELLENT STABILITY FOR DEEP GROOVING & PARTING-OFF

BUY 20 inserts

AND

GET 1 blade or 1 holder

FREE of charge!

Promo code: TG127

BUY 10 inserts AND 1 block

AND

GET 1 blade or 1 holder

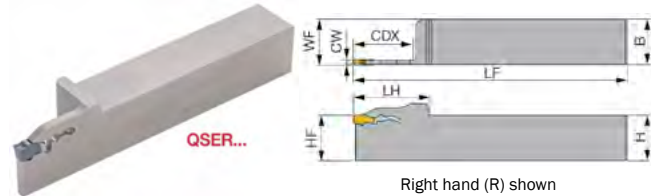
FREE of charge!

Promo code: TG128



QSER/L

External toolholders for grooving and parting



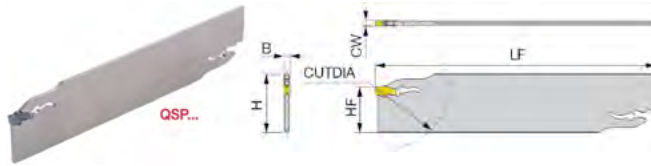
PART#:	CW	CDX	Seat size	H:B	LF	LH	HF	WF
QSER/L12-2T26	0.079	1.024	2	0.750	5.000	1.417	0.750	0.756
QSER/L12-2T33	0.079	1.299	2	0.750	5.000	1.654	0.750	0.756
QSER/L16-2T26	0.079	1.024	2	1.000	6.000	1.417	1.000	1.004
QSER/L16-2T33	0.079	1.299	2	1.000	6.000	1.654	1.000	1.004
QSER/L12-3T26	0.118	1.024	3	0.750	5.000	1.417	0.750	0.764
QSER/L12-3T33	0.118	1.299	3	0.750	5.000	1.654	0.750	0.764
QSER/L16-3T26	0.118	1.024	3	1.000	6.000	1.417	1.000	1.012
QSER/L16-3T33	0.118	1.299	3	1.000	6.000	1.654	1.000	1.012
QSER/L12-4T33	0.157	1.299	4	0.750	5.000	1.654	0.750	0.768
QSER/L16-4T33	0.157	1.299	4	1.000	6.000	1.654	1.000	1.016
QSER/L16-5T33	0.197	1.299	5	1.000	6.000	1.654	1.000	1.020

SPARE PART

Wrench
QL-39

QSP

Blades for external deep grooving and parting

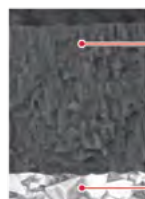


PART#:	CW (in)	CDX (mm)	Seat size	CUTDIA	H	B	LF	HF
QSP26-2D	0.079	2	2	1.969	1.024	0.071	5.906	0.831
QSP32-2D	0.079	2	2	2.598	1.260	0.071	5.906	0.965
QSP26-3D	0.118	3	3	2.953	1.024	0.094	5.906	0.831
QSP32-3D	0.118	3	3	4.724	1.260	0.094	5.906	0.965
QSP26-4D	0.157	4	4	3.150	1.024	0.126	5.906	0.827
QSP32-4D	0.157	4	4	4.724	1.260	0.126	5.906	0.961
QSP32-5D	0.197	5	5	4.724	1.260	0.157	5.906	0.961

SPARE PART

Wrench
QL-39

INSERTS WITH AH7025 COATING

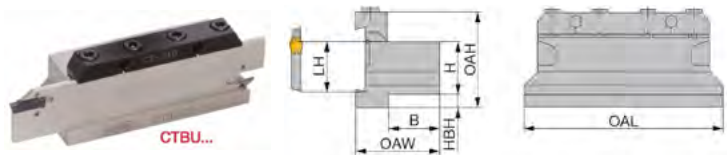


AH7025 uses the latest coating technology of a nano-scale multi-layered AlTiN PVD coating with high Al content, featuring

- Coating hardness increased by 20%
- A multi-layered coating structure impedes micro-crack propagation, reducing insert failures
- Enhanced adhesion strength between the coating and carbide substrate layer
- High wear and fracture resistant carbide substrate for optimal grooving performance

CTBU

Tool block for OSP blades



PART#:	H	B	OAL	LH	HBH	OAH	OAW	Blade (Optional)	Clamp	Clamping Screw	Wrench
CTBU-12-26-U	0.750	0.827	3.386	0.843	0.354	1.690	1.496	QSP26...	CT-86	CM6X30-S	P-5
CTBU-16-26-U	1.000	0.906	4.331	0.843	0.197	1.770	1.654	QSP26...	CT-100	CM6X30-S	P-5
CTBU-12-32-U	0.750	0.748	3.937	0.976	0.512	1.970	1.496	QSP32...	CT-105	CM6X30-S	P-5
CTBU-16-32-U	1.000	0.906	4.331	0.976	0.315	1.970	1.654	QSP32...	CT-110	CM6X30-S	P-5
CTBU-20-32-U	1.250	1.142	4.331	0.976	0.197	2.130	1.890	QSP32...	CT-110	CM6X30-S	P-5



QGM

The first choice chipbreaker for grooving and parting-off

PART#:	Seat Size	CW±0.05	RE	AH7025	INSL	h
QGM2-020	2	0.079	0.008	●	0.433	0.209
QGM3-020	3	0.118	0.008	●	0.433	0.209
QGM4-030	4	0.157	0.012	●	0.512	0.287
QGM5-030	5	0.197	0.012	●	0.512	0.287

P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

★ : First choice



QGS

Sharp cutting edge for lower cutting force

PART#:	Seat Size	CW±0.05	RE	AH7025	INSL	h
QGS2-020	2	0.079	0.008	●	0.433	0.209
QGS3-020	3	0.118	0.008	●	0.433	0.209
QGS4-030	4	0.157	0.012	●	0.512	0.287
QGS5-030	5	0.197	0.012	●	0.512	0.287

ADDICUT^{INTERNAL} 4 - EDGED ID GROOVING INSERT FOR .413" & LARGER DIAMETERS

BUY 10 inserts

AND

GET 1 steel shank holder

FREE
of charge!

Promo code: TG125

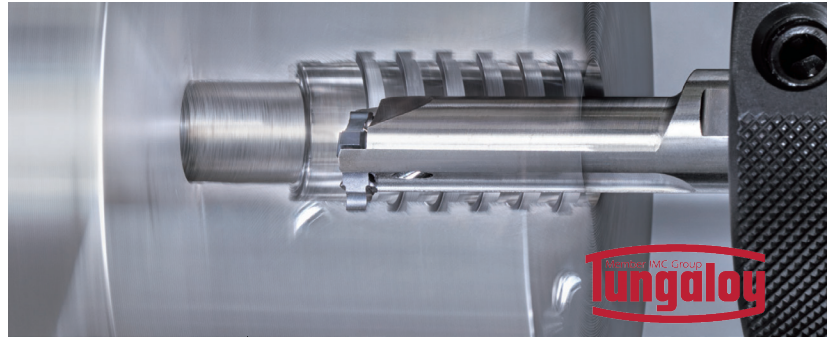
BUY 10 inserts

AND

GET 1 carbide shank holder at

50%
additional discount!

Promo code: TG125



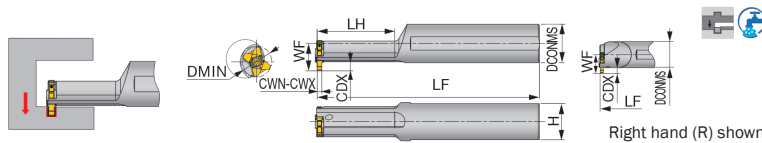
A/E-STCIR/L

Internal grooving toolholder



A*STCIR/L
Steel shank

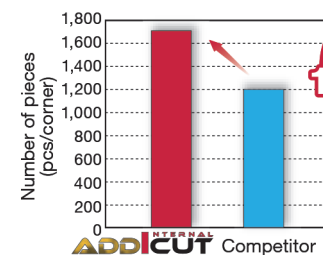
E*STCIR/L
Carbide shank



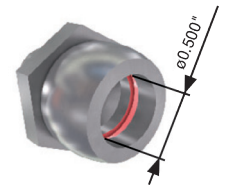
PART#:	Material	CWN	CWX	Seat size	DMIN	DCONMS	LH	LF	WF	H	Insert
A08-STCIR/L10-D07U	Steel	1.500	3.000	10	11.125	12.700	30.000	101.600	8.600	12.065	TCIG10...
A08-STCIR/L10-D08U	Steel	1.500	3.000	10	12.700	12.700	30.000	101.600	8.600	12.065	TCIG10...
E08-STCIR/L10-D10U	Carbide	1.500	3.000	10	15.875	12.700	-	127.000	8.600	12.065	TCIG10...

ADDICUT^{INTERNAL}

Unique clamping system for high precision internal grooving



Tool life
1.4 times!



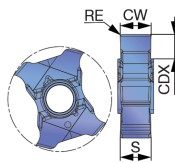
AddInternalCut provided part quality consistency thanks to secure insert clamping and also provided 1.4 times tool life increase.

SPARE PARTS

For Holder	Clamping screw
A/E-STCIR10-...	CSTB-2.2L053DR
A/E-STCIL10-...	CSTB-2.2L053DL

INSERTS

TCIG



TCIG10

Low cutting force chip breaker prevents vibration and provides the surface finish

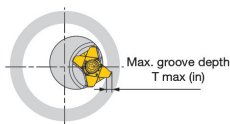
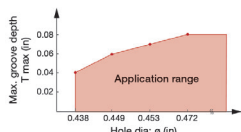
★ : First choice

P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	
S	Superalloys	★
H	Hard materials	

PART#:	CW±0.05	RE	Coated	
			AH7025	CDX S
TCIG10-150-010	0.059	0.004	•	0.078 0.134
TCIG10-200-010	0.079	0.004	•	0.078 0.134
TCIG10-250-020	0.098	0.008	•	0.078 0.134

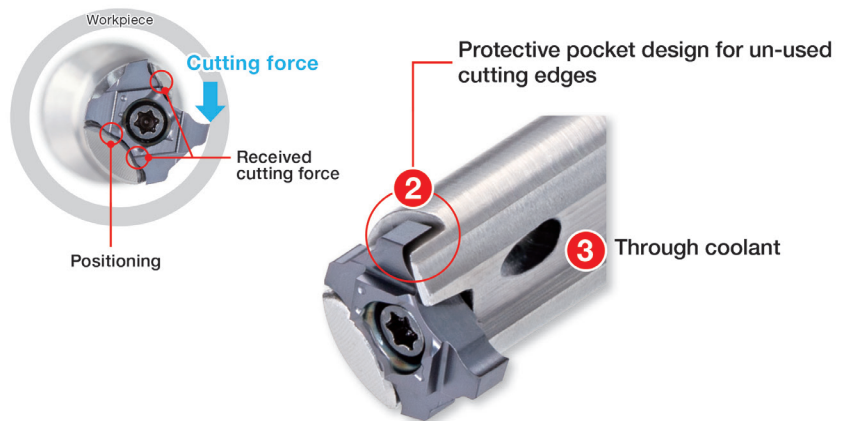
Note: Max groove depth for small holes

For hole diameters less than 0.453", the maximum groove depth (T max) for the insert becomes smaller than the specified value. Check the actual value in the chart below for hole diameters < 0.453".



Features

1 The insert is supported at three optimized positions for rigid clamping and superior repeatability



4 The same insert can be assembled on either left- or right-handed holder



Prevents the screw from loosening while machining



TETRAMCUT

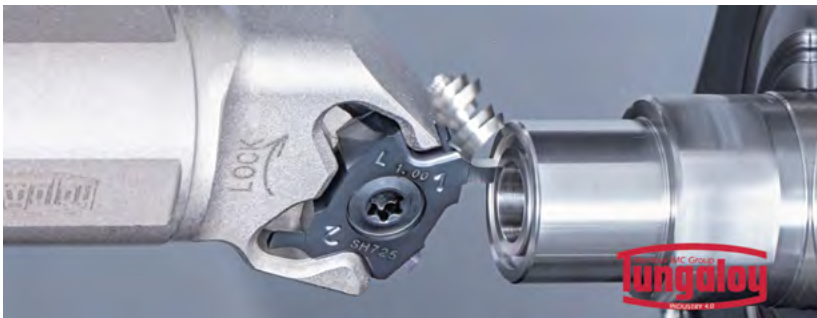
Face grooving for 0.236" (6 mm) minimum groove diameter!

BUY 10 inserts
AND
GET 1 holder at

60% additional discount!
Promo code: TG126

BUY 10 inserts
AND
GET 1 CHP holder at

40% additional discount!
Promo code: TG126



TCF18L... INSERTS

Sharp cutting edge and insert clamping rigidity provide superior surface finish.

Cutting width: CW (mm)

Axial groove outside diameter minimum: DAXN (mm)

New TCF18 DAXN = 6

TungCut series DAXN = 26

GX-F series DAXN = 55

STCL-18 : Precision external face grooving and threading tools

Note: The images show a R.H. holder. The L.H. holders have the insert on the opposite side.



The holders to be used with the TCF18L inserts are all L.H.



INCH	CWN	CWX	H	B	LF	LH	HF	WF	HBH	INSERT
STCL06-18	.013	.118	.375	.375	4.750	.740	.375	.375	.177	TCF18L
STCL08-18	.013	.118	.500	.500	4.750	.740	.500	.500	.098	
STCL10-18	.013	.118	.625	.625	4.750	.740	.625	.625	---	
STCL12-18	.013	.118	.750	.750	4.750	.900	.750	1.000	---	
STCL16-18	.013	.118	1.000	1.000	5.500	.900	1.000	1.250	---	
METRIC	CWN	CWX	H	B	LF	LH	HF	WF	HBH	INSERT
STCL1010X18	.033	3.00	10.0	10.0	120.00	18.5	10.0	10.00	4.5	TCF18L
STCL1212F18	.033	3.00	12.0	12.0	85.00	18.5	12.0	12.00	2.5	
STCL1212X18	.033	3.00	12.0	12.0	120.00	18.5	12.0	12.00	2.5	
STCL1616X18	.033	3.00	16.0	16.0	120.00	18.5	16.0	16.00	---	
STCL2020H18	.033	3.00	20.0	20.0	100.00	18.5	20.0	20.00	---	
STCL2020X18	.033	3.00	20.0	20.0	120.00	23.0	20.0	25.00	---	
STCL2525Z18	.033	3.00	25.0	25.0	135.00	23.0	25.0	30.00	---	

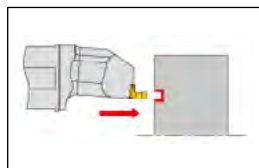
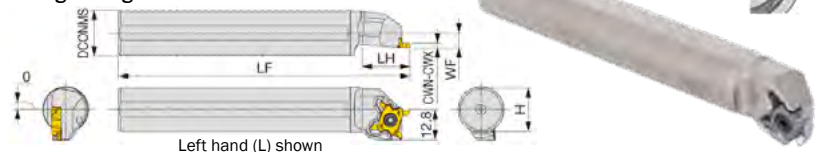
STCL-18-CHP : External face grooving and threading tools with high pressure coolant channels

Note: R.H. shown. The L.H. has the insert on the opposite side. Use the L.H. holders with the TCF18L inserts.

INCH	CWN	CWX	H	B	LF	LH	HF	WF	INSERT
STCL12-18-CHP	.013	.118	.750	.750	4.750	.900	.750	1.000	TCF18L
STCL16-18-CHP	.013	.118	1.000	1.000	5.500	.900	1.000	1.250	
METRIC	CWN	CWX	H	B	LF	LH	HF	WF	INSERT
STCL2020X18-CHP	.033	3.00	20.0	20.0	120.00	23.0	20.0	25.00	TCF18L
STCL2525Z18-CHP	.033	3.00	25.0	25.0	135.00	23.0	25.0	30.00	

JS-STCFL18

Face grooving toolholder with round shank



SPARE PARTS SHOWN BELOW

INCH	CWN	CWX	DCONMS	LF	LH	HF	WF	INSERT
JS19G-STCFL18	0.20	0.098	0.750	3.543	0.787	0.709	0.236	TCF18L...
JS19X-STCFL18	0.20	0.098	0.750	4.724	0.787	0.709	0.236	
JS254X-STCFL18	0.20	0.098	1.000	4.724	0.787	0.965	0.236	
METRIC	CWN	CWX	DCONMS	LF	LH	HF	WF	INSERT
JS16F-STCFL18	0.5	2.5	16	85	20	15	6	TCF18L...
JS19G-STCFL18	0.5	2.5	19.05	90	20	18	6	
JS19X-STCFL18	0.5	2.5	19.05	120	20	18	6	
JS20G-STCFL18	0.5	2.5	20	90	20	19	6	
JS20X-STCFL18	0.5	2.5	20	120	20	19	6	
JS22X-STCFL18	0.5	2.5	22	120	20	21	6	
JS25H-STCFL18	0.5	2.5	25	100	20	24	6	
JS254X-STCFL18	0.5	2.5	25.4	120	20	24.5	6	

Note: The left hand insert (L) is used for the left hand toolholders (L). *Torque: Recommended clamping torque: lbsft (*N·m)

STCFVR-18

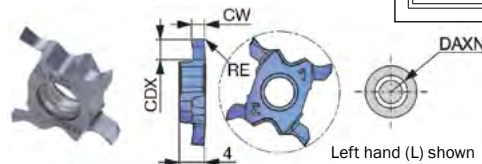
Face grooving toolholder with square shank, for Swiss lathes



INCH	CWN	CWX	H	B	LF	LH	HF	WF	HBKW	HBH	INSERT
STCFVR06-18	0.020	0.098	0.375	0.375	4.016	0.472	0.375	0	0.354	0.177	TCF18L...
STCFVR08-18	0.020	0.098	0.500	0.500	4.764	0.630	0.500	0	0.228	0.098	
STCFVR10-18	0.020	0.098	0.625	0.625	4.764	0.787	0.625	0	0.106	---	
METRIC	CWN	CWX	H	B	LF	LH	HF	WF	HBKW	HBH	INSERT
STCFVR1010H18	0.5	2.5	10	10	100	12	10	0	8.5	4.5	TCF18L...
STCFVR1212F18	0.5	2.5	12	12	85	16	12	0	6.5	2.5	
STCFVR1212X18	0.5	2.5	12	12	120	16	12	0	6.5	2.5	
STCFVR1616X18	0.5	2.5	16	16	120	20	16	0	2.5	0	

Note: The left hand insert (L) is used for the right hand toolholders (R). *Torque: Recommended clamping torque: lbsft (*N·m)

INSERTS TCF18L (Face grooving)



PART#:	HAND	CW±0.02 (mm)	CW±0.02 (in)	RE (in)	Coated		CDX (in)	DAXN (in)
					SH725	SH725		
TCF18L050F-005	L	0.5	0.020	0.002	•	•	0.039	0.236
TCF18L100F-005	L	1	0.039	0.002	•	•	0.098	0.236
TCF18L150F-005	L	1.5	0.059	0.002	•	•	0.098	0.236
TCF18L200F-005	L	2	0.079	0.002	•	•	0.118	0.236
TCF18L250F-005	L	2.5	0.098	0.002	•	•	0.118	0.236

SPARE PARTS

Designation	Clamping screw	Wrench
JS**STCFL18/STCFVR**18	CSTC-4L100DR	T-1008/5

P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	---

★ : First choice

5 pieces per package

TETRAFORCE CUT

COST-EFFICIENT GROOVING AND PARTING TOOL SERIES NOW OFFERS TCL38 INSERT FOR UP TO .394" (10 MM) GROOVE DEPTH

BUY 10 inserts
AND
GET 1 holder at

60%
additional
discount!
Promo code: TG122

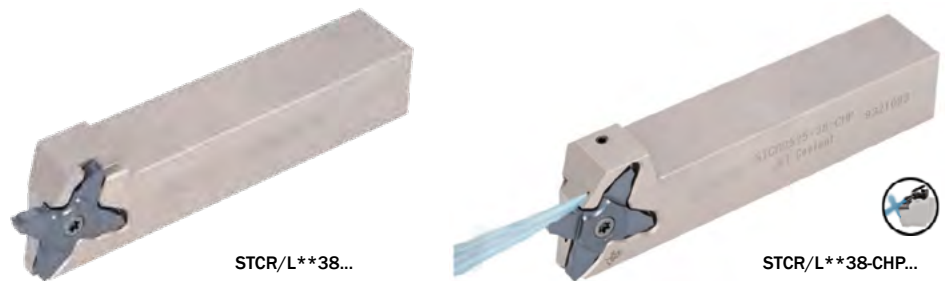
BUY 10 inserts
AND
GET 1 CHP holder at

40%
additional
discount!
Promo code: TG122



TETRAFORCE CUT

- Unique insert clamping method provides high repeatability and stability for effective deep grooving and parting applications
- Light cutting geometry ensures consistent chip control for reduced chatter
- Efficient multi-edged insert solution for OD grooving and parting applications exceeding 0.252" (6.4 mm) in cutting depth
- Economical 4-edge insert
- Precision coolant delivery ensures effective chip removal during deep grooving



CUTTING PERFORMANCE

Chipbreaker features

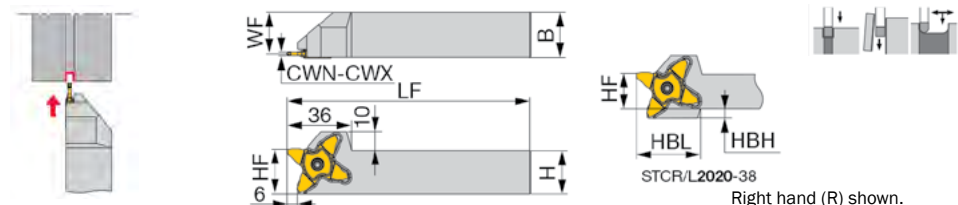
Large positive rake angle
Provides sharp cutting edge
low cutting force that eliminate
burr formation and chatter



Large dimple on the rake face
Ensures reliable chip removal during a low feed motion

STCR/L-38

External grooving and parting toolholder



TCL38... INSERTS

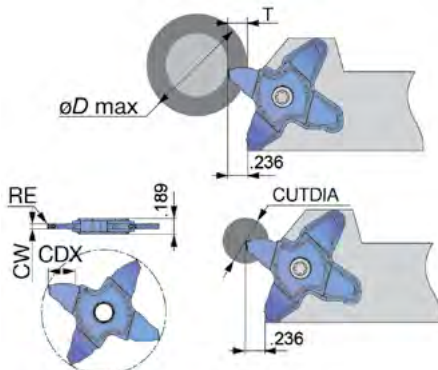
GRADE AH7025

P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	
S	Superalloys	★
H	Hard materials	

★ : First choice



Provides sharp cutting edge and low cutting force that eliminate burr formation and chatter.



INCH	CWN	CWX	H	B	LF	HF	WF	HBH	HBL	Insert	Torque*
STCR/L12-38	0.059	0.157	0.750	0.750	5.000	0.750	0.670	0.234	1.378	TCL38...	1.84
STCR/L16-38	0.059	0.157	1.000	1.000	5.500	1.000	0.920	---	---		
STCR/L20-38	0.059	0.157	1.250	1.250	5.500	1.250	1.170	---	---		
METRIC	CWN	CWX	H	B	LF	HF	WF	HBH	HBL	Insert	Torque*
STCR/L2020-38	1.50	4.00	20.0	20.0	120.00	20.0	18.10	5.0	35.0	TCL38...	1.84
STCR/L2525-38	1.50	4.00	25.0	25.0	135.00	25.0	23.10	---	---		
STCR/L2525-38-CHP	1.50	4.00	25.0	25.0	135.00	25.0	23.10	---	---		
STCR/L3232-38	1.50	4.00	32.0	32.0	135.00	32.0	30.10	---	---		

* Torque: Recommended clamping torque (N-m)

SPARE PARTS

Designation	Screw	Wrench
STCR****-38	SR16-212-01397L	T-2010/5
STCL****-38	SR16-212-01397	T-2010/5

PART#:	CW±0.02 (mm)	CW±0.02 (in)	RE (in)	Coated AH7025	CDX (in)	CUTDIA (in)	Relation of groove depth (T) and Max. diameter (D max)					
							T ≤ 5	T ≤ 6	T ≤ 7	T ≤ 8	T ≤ 9	T ≤ 10
TCL38-150-020	1.5	0.059	0.008	•	0.354	0.709	---	37.402	12.402	7.480	1.772	---
TCL38-200-020	2	0.079	0.008	•	0.354	0.709	---	37.402	12.402	7.480	1.772	---
TCL38-300-020	3	0.118	0.008	•	0.394	0.787	---	37.402	12.402	7.480	5.118	1.969
TCL38-400-020	4	0.157	0.012	•	0.394	0.787	---	37.402	12.402	7.480	5.118	1.969

STANDARD CUTTING CONDITIONS

ISO	Workpiece Materials	Grade	Cutting Speed vc (sfm)	Feed: f (ipr)
P	Carbon steel (1045, etc.)	AH7025	262 - 591	0.001 - 0.007
	Alloy steel (4140, etc.)	AH7025	164 - 591	0.001 - 0.007
M	Alloy steel (304SS, etc.)	AH7025	164 - 492	0.001 - 0.006
K	Grey cast iron (Class 25, etc.)	AH7025	164 - 591	0.001 - 0.006
	Ductile cast iron (60-40-18, etc.)	AH7025	164 - 394	0.001 - 0.006
S	Titanium alloys (Ti-6Al-4V, etc.)	AH7025	98 - 197	0.001 - 0.006



TUNGFEED BLADE

HIGH FEED GROOVING & PARTING-OFF

Strong holder design ensures excellent stability and productivity during demanding applications

BUY 20 inserts
AND
GET 1 blade

FREE
of charge!
Promo code: **TG123**

BUY 10 inserts AND
1 block
AND
GET 1 blade

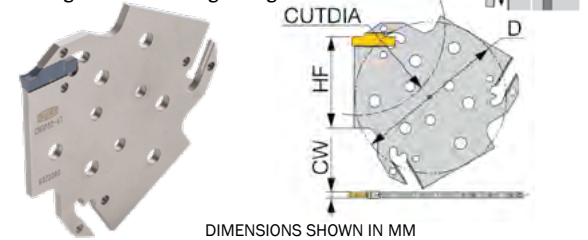
FREE
of charge!
Promo code: **TG124**



- The blade is designed to eliminate chatter during machining, providing better surface finish and straightness of the groove.
- Each blade has three insert seats for tool economy.
- The holder has two contact faces for enhanced rigidity.
- The back view (above) shows the square shank used for clamping the holder.

THE BLADE - CHGP...

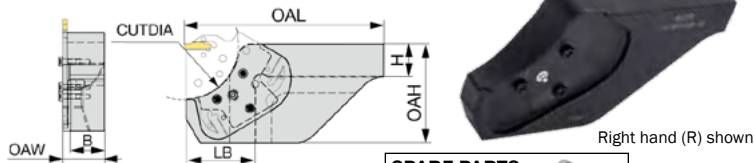
Parting-off and external grooving blade



PART#:	CW	Seat Size	CUTDIA	HF	D	Wrench
CHGP52-2T	2	2	52	27	48.3	CRW33
CHGP52-3T	3	3	52	27	48.3	🔧
CHGP82-3T	3	3	82	42	69.3	
CHGP82-4T	4	4	82	42	69.3	

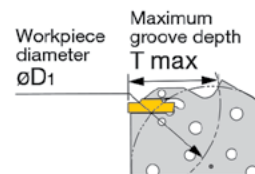
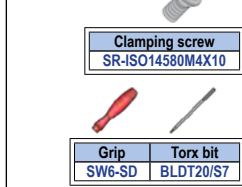
When depth is deeper than insert length - 1.5mm, 1 corner type is recommended.

THE HOLDER - CHTBR/L...



INCH	CUTDIA	H	B	OAL	OAH	OAW	LB
CHTBR/L12-52	2.047	0.750	0.770	4.000	1.970	1.000	1.457
CHTBR/L16-52	2.047	1.000	1.020	5.000	1.970	1.250	1.457
CHTBR/L12-82	3.228	0.750	0.770	5.500	2.950	1.000	2.087
CHTBR/L16-82	3.228	1.000	1.020	6.000	2.950	1.250	2.087
METRIC	CUTDIA	H	B	OAL	OAH	OAW	LB
CHTBR/L2020-52	52	20	20.5	100	50	26.5	37
CHTBR/L2525-52	52	25	25.5	125	50	31.5	37
CHTBR/L2020-82	82	20	20.5	140	75	26.5	53
CHTBR/L2525-82	82	25	25.5	150	75	31.5	53

SPARE PARTS



Maximum groove depth (T max) as function of workpiece diameter (øD1)

PART#:	øD1 (in)																	
CHTBR/L****-D52	2.087	2.126	2.165	2.205	2.283	2.362	2.441	2.559	2.677	2.835	3.071	3.307	3.622	4.016	4.528	5.236	6.260	7.795
CHTBR/L****-D82	4.094	4.252	4.409	4.567	4.764	5.000	5.276	5.591	5.945	6.378	6.929	7.559	8.346	9.331	10.630	12.323	14.764	18.425
T max	0.827	0.787	0.748	0.709	0.669	0.630	0.591	0.551	0.512	0.472	0.433	0.394	0.354	0.315	0.276	0.236	0.197	0.157

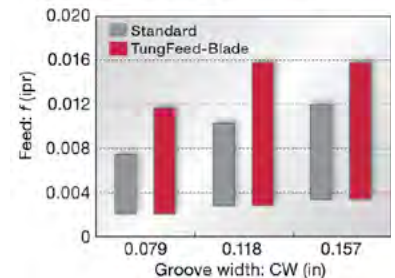
PART#:	øD1 (in)																	
CHTBR/L****-D82	3.268	3.307	3.346	3.386	3.425	3.504	3.543	3.622	3.701	3.780	3.858	3.976						
T max	1.339	1.299	1.220	1.181	1.142	1.102	1.063	1.024	0.984	0.945	0.906	0.866						

THE INSERTS

DGM type (2 corners)
SGM type (1 corner)



■ Increase with High feed blade



INSERT TYPES

DGM...
(Two cornered type)

SGM...
(One cornered type)

DGS...
(Two cornered type)

SGS...
(One cornered type)

DGL...

Specially designed chipbreaker for machining of gummy material.

The first choice for grooving and parting-off. Smooth chip evacuation, well-designed edge with high strength.

Lower cutting force with extremely sharp cutting edge.

PRACTICAL EXAMPLES

P

P

Productivity 5 times!

Productivity 5 times!

INCREASED TOOL LIFE WHILE INCREASING FEED RATE

AH6225

- A NEW GENERATION OF PVD GRADE FOR **STAINLESS STEEL**
- SUPERIOR WEAR RESISTANCE
- ELIMINATES BUILT UP EDGE

BUY 50 inserts
AND
GET
20%
additional
discount!
Promo code: **TG129**

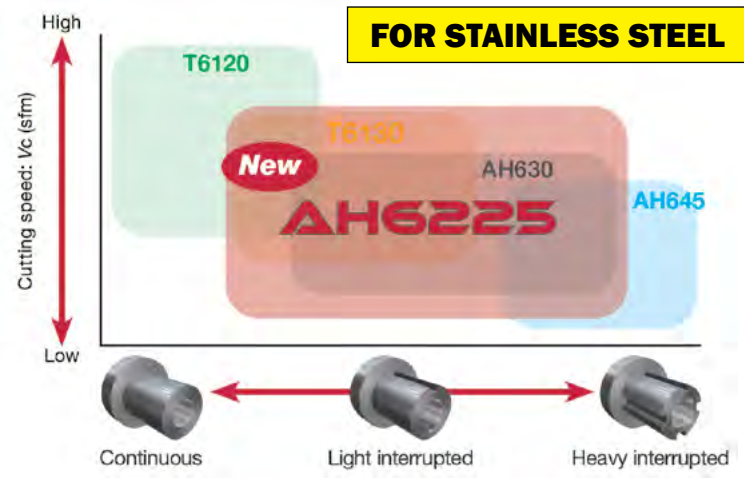
SAVE UP TO 55% FROM LIST



INSERTS INCLUDED IN THE PROMO:
Negative type: CNMG..., DNMG..., SNMG..., TNMG..., VNMG..., WNMG
Positive type: CCMT..., CPMT..., DCMT..., SCMT..., TCMT..., TPMT..., VBMT..., VCMT...,

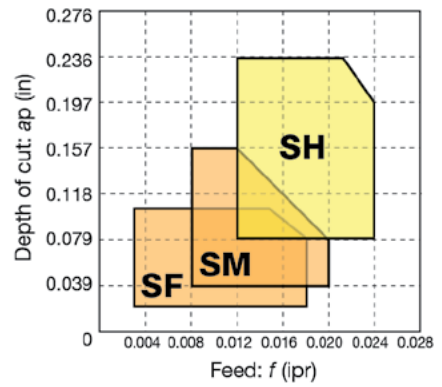
AH6225 is our new versatile solution for all your challenges in **STAINLESS STEEL** machining!

FOR STAINLESS STEEL

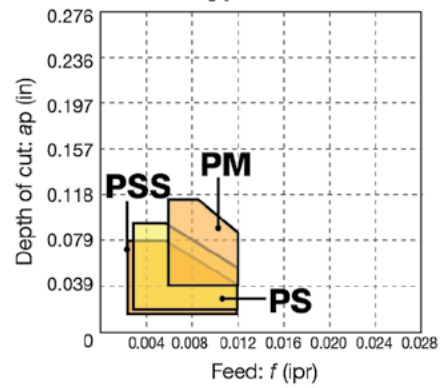


STANDARD CUTTING CONDITIONS

Negative type



Positive type



Workpiece material	Grade	Chipbreaker	Cutting Speed vc (sfm)	Depth of cut ap (in)	Feed f (ipr)
Austenitic stainless steel	AH6225	SF	300 - 660	0.020 - 0.098	0.003 - 0.018
	AH6225	SM	300 - 660	0.039 - 0.157	0.008 - 0.020
	AH6225	SH	300 - 660	0.079 - 0.236	0.012 - 0.024
Ferritic / martensite stainless steel	AH6225	SF	360 - 790	0.020 - 0.098	0.003 - 0.018
	AH6225	SM	360 - 790	0.039 - 0.157	0.008 - 0.020
	AH6225	SH	360 - 790	0.079 - 0.236	0.012 - 0.024
Precipitation hardened stainless steel	AH6225	SF	200 - 360	0.020 - 0.098	0.003 - 0.018
	AH6225	SM	200 - 360	0.039 - 0.157	0.008 - 0.020
	AH6225	SH	200 - 360	0.079 - 0.236	0.012 - 0.024

Workpiece material	Grade	Chipbreaker	Cutting Speed vc (sfm)	Depth of cut ap (in)	Feed f (ipr)
Austenitic stainless steel	AH6225	PSS	300 - 660	0.012 - 0.079	0.003 - 0.012
	AH6225	PS	300 - 660	0.020 - 0.098	0.003 - 0.012
	AH6225	PM	300 - 660	0.039 - 0.118	0.006 - 0.012
Ferritic / martensite stainless steel	AH6225	PSS	360 - 790	0.012 - 0.079	0.003 - 0.012
	AH6225	PS	360 - 790	0.020 - 0.098	0.003 - 0.012
	AH6225	PM	360 - 790	0.039 - 0.118	0.006 - 0.012
Precipitation hardened stainless steel	AH6225	PSS	200 - 360	0.012 - 0.079	0.003 - 0.012
	AH6225	PS	200 - 360	0.020 - 0.098	0.003 - 0.012
	AH6225	PM	200 - 360	0.039 - 0.118	0.006 - 0.012



MINIFORCE TURN / TUNGALOY TUNGJET

- INNOVATIVE TURNING SYSTEM FOR SMALL CNC LATHES AND SWISS TYPE AUTOMATIC LATHES.
- ECONOMICAL DOUBLE SIDED POSITIVE INSERTS
- COOLANT THRU HOLDERS • ASSURED STABILITY & HIGH PERFORMANCE

BUY 20 inserts
AND
GET 1 CHP holder at

40%
additional
discount!
Promo code: TG130

INSERTS INCLUDED IN THE PROMO:



DXGU...
Double sided
55deg rhombic
inserts



DXMU...
Double sided
55deg rhombic M
class insert

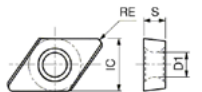
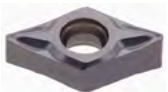


VXGU...
Double sided
35deg rhombic
inserts



WXGU...
Double sided
80deg trigon
inserts

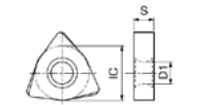
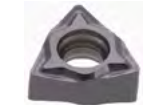
SMALL YET POWERFUL



DXGU, DXMU		
I.C.	S	D1
1/4"	1/8"	.106"



VXGU		
I.C.	S	D1
.218"	.109"	.098"



WXGU		
I.C.	S	D1
1/4"	1/8"	.106"

GRADES: AH725, AH8015, GT9530, NS9530, SH725, T9215, T9225, KS05F

STANDARD CUTTING CONDITIONS

USE	ISO	Material(l)	Grade	CB*	Priority
For swiss type automatic lathes	P	P1	SH725	JS	First choice
		P2			
		P3	SH725	JSS	With high sharpness
		P4			
For small size CNC lathes	P	M1	SH725	JS	First choice
		M2			
		M3	SH725	JSS	With high sharpness
		M4			
For small size CNC lathes	P	P1	AH725	SS	First choice
		P2	AH725	TS	
		P3	NS9530	SS	For improved surface finish
		P4	NS9530	TS	For wear resistance
	M	M1	AH725	SS	First choice
		M2	AH725	TS	For impact resistance
		M3			

CB=Chipbreaker (l) See materials below:

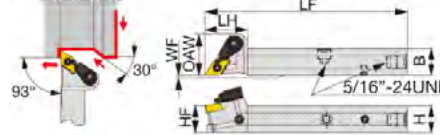
P1 = Low carbon steels
P2 = Carbon steels (1045, etc.)
P3 = Low alloy steels
P4 = Alloy steels (4140, etc.)

M1 = Stainless steels (Austenitic) (304, etc.)
M2 = Stainless steels (Martensitic and ferritic) (430, etc.)
M3 = Stainless steels (Precipitation hardened) (174, etc.)



JSDJ2 HOLDERS for DXGU inserts

Screw-on toolholder without offset, 93° approach angle, high pressure coolant compatible



Right hand (R) shown

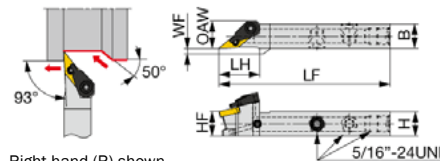
Note: Right hand toolholders (R) are used with left-hand inserts (L).



INCH	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSDJ2XR082X-CHP	0.500	0.500	4.750	0.748	0.500	0	0.728	DXGU0703**L	DIRECT COOLANT CONNECTION
JSDJ2XR102X-CHP	0.625	0.625	4.750	0.748	0.625	0	0.728	DXGU0703**L	DIRECT COOLANT CONNECTION
JSDJ2XR1082-CHP	0.500	0.500	3.344	0.750	0.500	0	0.730	DXGU0703**L/R	THRU TUBE CONNECTION
METRIC	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSDJ2XR1012H07-CHP	10	12	100	17	10	0	14.7	DXGU0703**L	DIRECT COOLANT CONNECTION
JSDJ2XR1212X07-CHP	12	12	120	19	12	0	18.5	DXGU0703**L	DIRECT COOLANT CONNECTION
JSDJ2XR1616X07-CHP	16	16	120	19	16	0	18.5	DXGU0703**L	DIRECT COOLANT CONNECTION
JSDJ2XR/L1212F07-CHP	12	12	85	19	12	0	18.5	DXGU0703**L/R	THRU TUBE CONNECTION

JSVJ2 HOLDERS for VXGU inserts

Screw-on toolholder without offset, 93° approach angle, high pressure coolant compatible



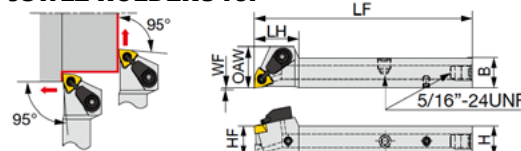
Right hand (R) shown

Note: Right hand toolholders (R) are used with left-hand inserts (L). Left hand toolholders (L) are used with right-hand inserts.



INCH	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSVJ2XR/L087-CHP	.500	.500	3.344	.787	.500	.000	.535	VXGU09T2...R/L	THRU TUBE CONNECTION
JSVJ2XR/L087X-CHP	.500	.500	4.750	.768	.500	.000	.528	VXGU09T2...R	DIRECT COOLANT CONNECTION
JSVJXR107X-CHP	.625	.625	4.750	.768	.625	.000	.625	VXGU09T2...L	DIRECT COOLANT CONNECTION
METRIC	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSVJ2XR1012H09-CHP	10	12	100	17	10	0	12	VXGU09T2**L	DIRECT COOLANT CONNECTION
JSVJ2XR1212X09-CHP	12	12	120	19.5	12	0	13.4	VXGU09T2**L	DIRECT COOLANT CONNECTION
JSVJ2XR1616X09-CHP	16	16	120	19.5	16	0	16	VXGU09T2**L	DIRECT COOLANT CONNECTION
JSVJ2XR/L1212F09-CHP	12	12	85	20	12	0	13.5	VXGU09T2**L/R	THRU TUBE CONNECTION

JSWL2 HOLDERS for



Note: Right hand toolholders (R) are used with left-hand inserts (L).

Right hand (R) shown



INCH	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSWL2XR/L082-CHP	.500	.500	3.344	.750	.500	.000	.650	WXGU22...R/L	THRU TUBE CONNECTION
JSWL2XL0082X-CHP	.500	.500	4.750	.728	.500	.000	.650	WXGU22...R	DIRECT COOLANT CONNECTION
JSWL2XR102X-CHP	.625	.625	4.750	.728	.625	.000	.650	WXGU22...L	DIRECT COOLANT CONNECTION
METRIC	H	B	LF	LH	HF	WF	OAW	Insert	Coolant Delivery System
JSWL2XR1212X04-CHP	12	12	120	8.5	12	0	16.5	WXGU0403**L	DIRECT COOLANT CONNECTION
JSWL2XR1616X04-CHP	16	16	120	18.5	16	0	16.5	WXGU0403**L	DIRECT COOLANT CONNECTION
JSWL2XR/L1212F04-CHP	12	12	85	18	12	0	16.5	WXGU0403**L/R	THRU TUBE CONNECTION

ISO ETURN NEW GNMG AND FNMG GEOMETRIES - WILL FIT EXISTING HOLDERS

BUY 50 inserts

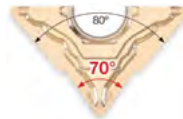
AND GET

20% additional discount!

Promo code: TG131

SAVE UP TO 55% FROM LIST

Innovative insert designs with reduced corner angles for better chip control and machining stability



- **GNMG33** insert with 70° corners: good alternative to CNMG with 80° corners
- The new inserts can be used with existing toolholders for CNMG33



- **FNMG33** insert with 45° corners: good alternative to DNMG with 55° corners
- The new inserts can be used with existing toolholders for DNMG33

INSERTS INCLUDED IN THE PROMO:	70°	45°	25°	
	GNMG 33**E-TSF GNMG 33**E-TM	FNMG 33**E-TSF FNMG 33**E-TM	YNMG 33**ZF YNMG 33**ZM	T9215 - Steel. Finishing to Medium T9225 - Steel. Medium to Roughing T9235 - Steel. Roughing & Interrupted AH8015 - High Temp Alloys GT9530 - Cermet. Finishing in Steels NS9530 - Cermet. Medium Cuts in Steels

CHIPBREAKERS

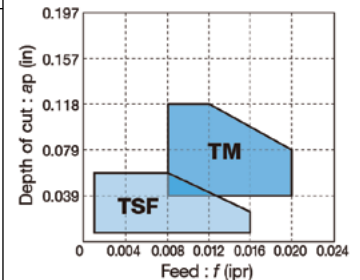
TSF chipbreaker

Excellent chip control and low cutting force geometry for finishing machining.



TM chipbreaker

Excellent chip control and stable force geometry for medium machining.



APPLICATIONS:

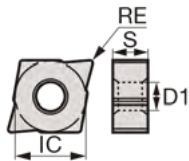
- Continuous cutting
- ◆ Light interrupted cutting
- ⊗ Heavy interrupted cutting

		T9215	T9225	AH8015
P	Steel	◆◆	◆◆	◆◆
M	Stainless	◆◆	◆◆	◆◆
K	Cast iron	◆◆	◆◆	◆◆
N	Non-ferrous			
S	Superalloys			◆◆

GNMG



Rhombic, 70° with hole



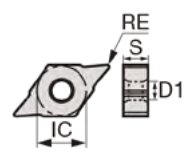
Application	Chipbreaker	Designation		Dimension (in)			
		Inch	Metric	IC	S	D1	RE
Finishing		GNMG-330.5E-TSF	GNMG090402E-TSF	0.375	0.187	0.150	0.008
		GNMG-331E-TSF	GNMG090404E-TSF	0.375	0.187	0.150	0.016
		GNMG-332E-TSF	GNMG090408E-TSF	0.375	0.187	0.150	0.032
Medium Cutting		GNMG-331E-TM	GNMG090404E-TM	0.375	0.187	0.150	0.016
		GNMG-332E-TM	GNMG090408E-TM	0.375	0.187	0.150	0.032
		GNMG-333E-TM	GNMG090412E-TM	0.375	0.187	0.150	0.047

Make sure to offset the cutting edge position after insert change. Do not use ISO-EcoTurn cartridge set for CNMG33 (AD-CL-4/3-SET or -SET-S) with GNMG33 insert. The insert may move during machining.

FNMG



Rhombic, 45° with hole



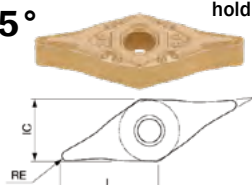
Application	Chipbreaker	Designation		Dimension (in)			
		Inch	Metric	IC	S	D1	RE
Finishing		FNMG-330.5E-TSF	FNMG110402E-TSF	0.375	0.187	0.150	0.008
		FNMG-331E-TSF	FNMG110404E-TSF	0.375	0.187	0.150	0.016
		FNMG-332E-TSF	FNMG110408E-TSF	0.375	0.187	0.150	0.032
Medium Cutting		FNMG-331E-TM	FNMG110404E-TM	0.375	0.187	0.150	0.016
		FNMG-332E-TM	FNMG110408E-TM	0.375	0.187	0.150	0.032
		FNMG-333E-TM	FNMG110412E-TM	0.375	0.187	0.150	0.047

Make sure to offset the cutting edge position after insert change. Please note that the insert shim may interfere with the workpiece when FNMG insert is used with Q-style toolholder to undercut a work diameter of 1.969" or smaller.

YNMG

With 25° Corner will fit Holders & Boring bars that hold VNMG Inserts.

25°



INSERT	IC	S	d	r
YNMG-331	.375	.187	.150	.016
YNMG-332	.375	.187	.150	.031



Material	ISO	Operation	Chip breaker	Grade	Depth of cut ap (in)	Feed f (ipr)	Cutting speed: vc (sfm)		
							Low carbon steel, alloy steel	Medium carbon steel, alloy steel	High carbon steel, alloy steel
STEEL	P	Finishing	TSF	T9215	0.008 - 0.059	0.003 - 0.016	492 - 1312	492 - 1312	394 - 984
				T9225	0.008 - 0.059	0.003 - 0.016	394 - 984	394 - 984	328 - 820
		Medium cutting	TM	T9215	0.039 - 0.118	0.008 - 0.020	492 - 1312	492 - 1312	394 - 984
				T9225	0.039 - 0.118	0.008 - 0.020	394 - 984	394 - 984	328 - 820
STAINLESS	M	Finishing	TSF	T9215	0.008 - 0.059	0.003 - 0.016	Stainless steel		
				T9225	0.008 - 0.059	0.003 - 0.016	328 - 820		
				AH8015	0.008 - 0.059	0.003 - 0.016	295 - 623		
		Medium cutting	TM	T9215	0.039 - 0.118	0.008 - 0.020	328 - 820		
				T9225	0.039 - 0.118	0.008 - 0.020	328 - 820		
				AH8015	0.039 - 0.118	0.008 - 0.020	295 - 623		
HI-TEMP	S	Finishing	TSF	AH8015	0.008 - 0.059	0.003 - 0.016	66 - 262		
		Medium cutting	TM	AH8015	0.039 - 0.118	0.008 - 0.020	66 - 262		



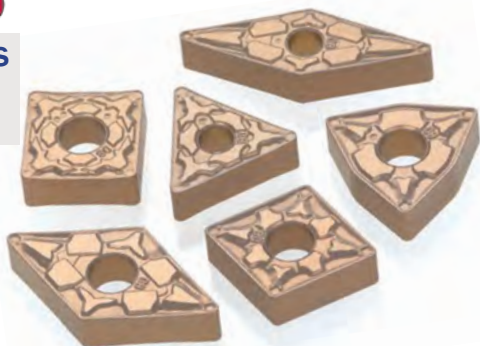
PS & PM T9200

BUY 50 inserts
AND
GET

20%
additional
discount!

Promo code: TG132

PS AND PM CHIPBREAKERS FOR LIGHT CUTTING DEPTHS OR HIGH FEED RATES TURNING INSERTS FOR STEEL IN GRADES T9215 & T9225



**SAVE
UP TO 55%
FROM LIST**

STANDARD CUTTING CONDITIONS

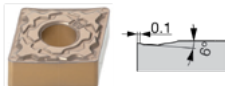
ISO	Operation	Chip breaker	Grade	Depth of cut ap (in)	Feed f (ipr)	Cutting speed: vc (sfm)		
						Low carbon steel, alloy steel	Medium carbon steel, alloy steel	High carbon steel, alloy steel
P	Finishing	PS	T9215	0.012 - 0.059	0.004 - 0.016	492 - 1312	492 - 1312	394 - 984
			T9225	0.012 - 0.059	0.004 - 0.016	394 - 984	394 - 984	328 - 820
	Medium cutting	PM	T9215	0.020 - 0.217	0.006 - 0.020	492 - 1312	492 - 1312	394 - 984
			T9225	0.020 - 0.217	0.006 - 0.020	394 - 984	394 - 984	328 - 820

CARBIDE GRADES APPLICATIONS

		T9215	AH8015
P	Steel	◆◆	◆◆
M	Stainless	◆◆	
K	Cast iron	◆◆	

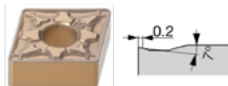
- ◆ Continuous cutting
- ◆ Light interrupted cutting
- ◆ Heavy interrupted cutting

PS



Unique geometry to provide better crater wear resistance and chip control during turning at light cutting depths.

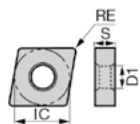
PM



Versatile geometry with optimized cutting edge design to provide superior chip control in wide range of applications.

CNMG

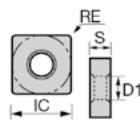
Rhombic, 80° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	CNMG-431-PS	0.016	0.500	0.187	0.203
		CNMG-432-PS	0.031	0.500	0.187	0.203
		CNMG-433-PS	0.047	0.500	0.187	0.203
Medium Cutting	PM	CNMG-431-PM	0.016	0.500	0.187	0.203
		CNMG-432-PM	0.031	0.500	0.187	0.203
		CNMG-433-PM	0.047	0.500	0.187	0.203
		CNMG-434-PM	0.063	0.500	0.187	0.203

SNMG

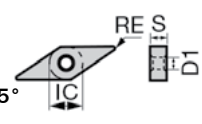
Square, 90° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	SNMG-431-PS	0.016	0.500	0.187	0.203
		SNMG-432-PS	0.031	0.500	0.187	0.203
Medium Cutting	PM	SNMG-431-PM	0.016	0.500	0.187	0.203
		SNMG-432-PM	0.031	0.500	0.187	0.203
		SNMG-433-PM	0.047	0.500	0.187	0.203
		SNMG-434-PM	0.063	0.500	0.187	0.203

VNMG

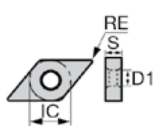
Rhombic, 35° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	VNMG-331-PS	0.016	0.375	0.187	0.150
		VNMG-332-PS	0.031	0.375	0.187	0.150
Medium Cutting	PM	VNMG-332-PM	0.031	0.375	0.187	0.150
		VNMG-333-PM	0.047	0.375	0.187	0.150

DNMG

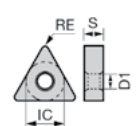
Rhombic, 55° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	DNMG-431-PS	0.016	0.500	0.187	0.203
		DNMG-432-PS	0.031	0.500	0.187	0.203
		DNMG-433-PS	0.047	0.500	0.187	0.203
		DNMG-441-PS	0.016	0.500	0.250	0.203
		DNMG-442-PS	0.031	0.500	0.250	0.203
		DNMG-443-PS	0.047	0.500	0.250	0.203
Medium Cutting	PM	DNMG-431-PM	0.016	0.500	0.187	0.203
		DNMG-432-PM	0.031	0.500	0.187	0.203
		DNMG-433-PM	0.047	0.500	0.187	0.203
		DNMG-441-PM	0.016	0.500	0.250	0.203
		DNMG-442-PM	0.031	0.500	0.250	0.203
		DNMG-443-PM	0.047	0.500	0.250	0.203

TNMG

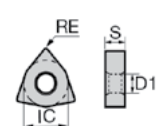
Triangular, 60° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	TNMG-331-PS	0.016	0.375	0.375	0.150
		TNMG-332-PS	0.031	0.375	0.375	0.150
		TNMG-333-PS	0.047	0.375	0.375	0.150
Medium Cutting	PM	TNMG-331-PM	0.016	0.375	0.187	0.150
		TNMG-332-PM	0.031	0.375	0.187	0.150
		TNMG-333-PM	0.047	0.375	0.187	0.150

WNMG

Trigon, 80° with hole



Application	Chipbreaker	Dimension (in)				
		RE	IC	S	D1	
Finishing	PS	WNMG-431-PS	0.016	0.500	0.187	0.203
		WNMG-432-PS	0.031	0.500	0.187	0.203
		WNMG-433-PS	0.047	0.500	0.187	0.203
Medium Cutting	PM	WNMG-432-PM	0.031	0.500	0.187	0.203
		WNMG-433-PM	0.047	0.500	0.187	0.203
		WNMG-434-PM	0.063	0.500	0.187	0.203

ADD^oFEED

HIGH FEED MILLING - SMALL DIAMETER SOLUTION

Highly successful DoFeed series now available in smaller 8 mm (.375") diameter milling cutter. AddDoFeed double sided negative insert features a large rake angle with optimal inclination that allows good chip control and smooth chip evacuation.

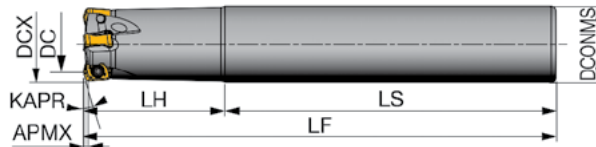
BUY 10 inserts per pocket

AND
GET 1 cutter

Maximum purchase of 50 inserts required

FREE of charge!

Promo code: TG114



- WITH COOLANT HOLE

EXN02, EXN02...L

High feed endmill, shank type, for 4-corner double sided inserts

GAMP: Rake angle axial = +6°
GAMF: Rake angle radial = +5° - +11°

PART#:	APMX	DCX	z*	DC	DCONMS	LF	LH	LS	KAPR	WT (lb)	Insert
EXN02R037U0037-01	0.020	0.375	1	0.212	0.375	3.000	0.750	2.250	17°	0.090	LNMU02...
EXN02R037U0037-01L	0.020	0.375	1	0.212	0.375	3.500	1.250	2.250	17°	0.090	LNMU02...
EXN02R050U0050-02	0.020	0.500	2	0.335	0.500	3.000	0.750	2.250	17°	0.150	LNMU02...
EXN02R050U0050-02L	0.020	0.500	2	0.335	0.500	4.250	2.000	2.250	17°	0.200	LNMU02...
EXN02R062U0062-03L	0.020	0.625	3	0.460	0.625	4.500	2.000	2.500	17°	0.330	LNMU02...
EXN02R062U0062-04	0.020	0.625	4	0.460	0.625	4.000	1.500	2.500	17°	0.310	LNMU02...
EXN02R075U0075-04L	0.020	0.750	4	0.585	0.750	6.500	3.500	3.000	17°	0.640	LNMU02...
EXN02R075U0075-05	0.020	0.750	5	0.585	0.750	5.000	2.000	3.000	17°	0.510	LNMU02...
EXN02R100U0100-06L	0.020	1.000	6	0.835	1.000	7.000	4.000	3.000	17°	1.280	LNMU02...
EXN02R100U0100-07	0.020	1.000	7	0.835	1.000	5.500	2.500	3.000	17°	1.040	LNMU02...

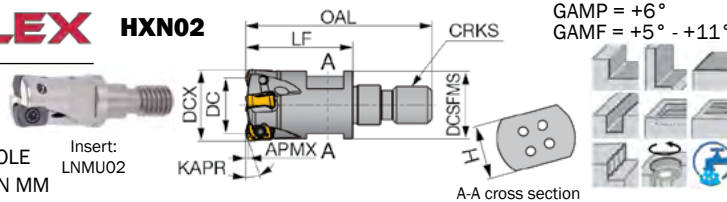
z* = No. of inserts

TUNGFLEX HXN02

High feed endmill, modular type (TungFlex)

- WITH COOLANT HOLE

DIMENSIONS SHOWN IN MM

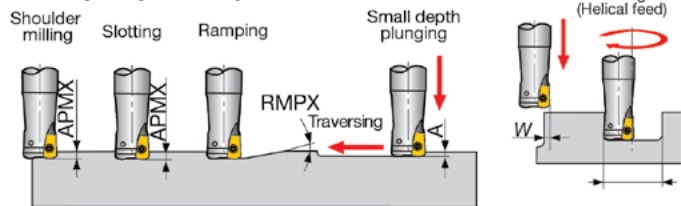


GAMP = +6°
GAMF = +5° - +11°

PART#:	APMX	DCX	z*	DC	DCSFMS	OAL	LF	H	KAPR	CRKS
HXN02R008MM06-01	0.5	8	1	3.95	9.5	33.5	19	7	17°	M6
HXN02R010MM06-02	0.5	10	2	5.85	9.5	31.5	17	7	17°	M6
HXN02R012MM06-02	0.5	12	2	7.8	10	31.5	17	7	17°	M6
HXN02R016MM08-04	0.5	16	4	11.8	14.5	40	23	10	17°	M8
HXN02R020MM10-05	0.5	20	5	15.8	17.8	49	30	15	17°	M10
HXN02R025MM12-07	0.5	25	7	20.8	23	52	30	17	17°	M12

z* = No. of inserts

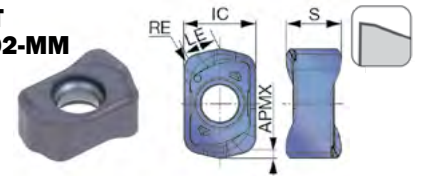
APPLICATION RANGE



APMAX = MAX. DEPTH OF CUT
RPMX = MAX. RAMPING ANGLE
A = MAX. PLUNGING DEPTH
W = MAX. CUTTING WIDTH IN PLUNGING
D1 = MIN. MACHINING
D2 = MAX. MACHINING
ae = MAX CUTTING WIDTH IN ENLARGED HOLES

PART#:	DCX	APMX	RPMX	A	W	øD1	øD2	ae
EXN02R037U...	0.375	0.020	3.100	0.006	0.079	0.509	0.635	0.289
EXN02R050U...	0.500	0.020	1.780	0.006	0.079	0.760	0.886	0.413
EXN02R062U...	0.625	0.020	1.230	0.006	0.079	1.011	1.137	0.539
EXN02R075U...	0.750	0.020	0.950	0.006	0.079	1.262	1.388	0.664
EXN02R100U...	1.000	0.020	0.640	0.006	0.079	1.756	1.882	0.913

INSERT LNMU02-MM



PART#:	IC	S	RE	APMX	LE
LNMU0202ZER-MM	0.157	0.122	0.035	0.020	0.070

CARBIDE GRADES APPLICATIONS

	Steel	Stainless	Cast iron	Non-ferrous	Superalloys	Hard Materials
AH130		★	★	★	★	★
AH3225		★	★	★	★	★
AH8015		★	★	★	★	★

- Alternative to solid carbide end-mills.
- Higher efficiency and cost saving



- ★ First choice
- ☆ Second choice



Optimized jet coolant delivery effectively removes chip and prevents it from being re-cut

Large inclination forms ideal chips and controls the chips flow

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Priority	Grades	Cutting speed vc (sfm)	Feed per tooth fz (ipt)
P	Carbon steels 1045, 1055, etc.	- 300HB	First choice	AH3225	330-980	0.008-0.047
		- 300HB	For wear resistance	AH8015	330-980	0.008-0.047
	Alloy steels 4140, etc.	- 300HB	First choice	AH3225	330-980	0.008-0.047
		- 300HB	For wear resistance	AH8015	330-980	0.008-0.047
Prehardened steels NAK80, PX5, etc.	30-40HRC	First choice	AH8015	330-660	0.008-0.031	
	30-40HRC	For impact resistance	AH3225	330-660	0.008-0.031	
M	Stainless steels 304SS, etc.	- 200HB	First choice	AH130	330-490	0.008-0.031
K	Gray cast irons class25, etc.	150-250HB	First choice	AH8015	330-980	0.008-0.047
		150-250HB	For impact resistance	AH3225	330-980	0.008-0.047
	Ductile cast irons 80-50-06, etc.	150-250HB	First choice	AH8015	260-660	0.008-0.047
S	Titanium alloy Ti-6Al-4V, etc.	- 40HRC	First choice	AH130	100-200	0.008-0.028
		- 40HRC	For wear resistance	AH8015	100-200	0.008-0.028
	Heat resistant alloy Inconel, Hastelloy, etc.	- 40HRC	First choice	AH8015	70-160	0.004-0.012
		- 40HRC	For impact resistance	AH3225	70-160	0.004-0.012
H	Hardened steel H13, etc.	40-50HRC	First choice	AH8015	260-490	0.004-0.020
		40-50HRC	For impact resistance	AH3225	260-490	0.004-0.020
	D2, etc.	50-60HRC	First choice	AH8015	160-230	0.004-0.012



TUNG-TRI

BUY 10 inserts per pocket

AND GET 1 cutter

Maximum purchase of 50 inserts required

FREE of charge!

Promo code: TG115



INCLUDED IN THE PROMO



TOMT04-MM

Single-sided, 3 cornered insert with MM chipbreaker

Insert:

TOMT04-MM (AH3225, AH8015, AH120)
Max.ap = 3.5 mm (.138")
RE = 0.4, 0.8mm (.0157", .0315")

CUTTERS:

EPA04R... (Short type)
DC = ø8 ~ ø25mm
EPA04R**L... (Long type)
DC = ø10 ~ ø25mm

EXTREMELY COST-EFFICIENT SHOULDER MILL SERIES UNVEILS CUTTERS IN SMALLER DIAMETERS THAN EVER BEFORE

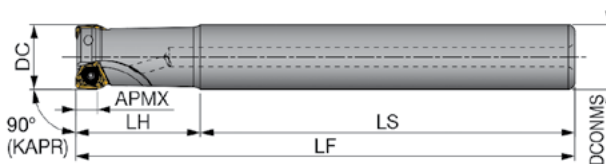
Tung-Tri 04 boasts an innovative insert geometry, featuring a super high rake for a small diameter cutter, which significantly reduces cutting forces while eliminating chatter and edge chipping.



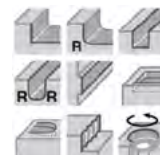
EPA04 High precision square shoulder endmill WITH COOLANT HOLES



DIMENSIONS SHOWN IN MM



GAMP: Rake angle axial = +12.1° - +12.2°
GAMF: Rake angle radial = -14.2° ~ -18.3°



PART#:	APMX	DC	z*	DCONMS	LS	LH	LF	WT (kg)	Insert
EPA04R008M08.0-01	3.5	8	1	8	48	12	60	0.02	TOMT04...
EPA04R010M10.0-02	3.5	10	2	10	60	20	80	0.04	TOMT04...
EPA04R010M10.0-02L	3.5	10	2	10	65	35	100	0.05	TOMT04...
EPA04R012M12.0-02	3.5	12	2	12	60	20	80	0.06	TOMT04...
EPA04R012M12.0-03	3.5	12	3	12	60	20	80	0.06	TOMT04...
EPA04R012M12.0-02L	3.5	12	2	12	85	35	120	0.09	TOMT04...
EPA04R016M16.0-03	3.5	16	3	16	70	20	90	0.12	TOMT04...
EPA04R016M16.0-04	3.5	16	4	16	70	20	90	0.12	TOMT04...
EPA04R016M16.0-03L	3.5	16	3	16	105	35	140	0.19	TOMT04...
EPA04R020M20.0-04	3.5	20	4	20	70	30	100	0.21	TOMT04...
EPA04R020M20.0-05	3.5	20	5	20	70	30	100	0.21	TOMT04...
EPA04R020M20.0-04L	3.5	20	4	20	165	35	200	0.44	TOMT04...
EPA04R025M25.0-05	3.5	25	5	25	80	35	115	0.39	TOMT04...
EPA04R025M25.0-06	3.5	25	6	25	80	35	115	0.39	TOMT04...
EPA04R025M25.0-04L	3.5	25	4	25	160	40	200	0.7	TOMT04...

* z = No. of inserts

SPPARE PARTS

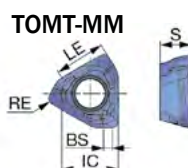
Designation	Clamping screw	Wrench
EPA04R008M08.0-01	CSPB-1.8L3.3	IP-6DB
EPA04R010 - 025...	CSPB-1.8L3.6	IP-6DB

*Recommended clamping torque (Nm) : CSPB-1.8L3.3/CSPB-1.8L3.6 = 0.5

CARBIDE GRADE APPLICATION

		AH3225	AH120	AH8015
★ First choice		★	★	
☆ Second choice				★
P	Steel	★	★	
M	Stainless	★		
K	Cast iron		★	
N	Non-ferrous			
S	Superalloys	★		★
H	Hard Materials			★

INSERTS TOMT-MM



APMX = MAX DEPTH OF CUT

PART#:	IC	S	BS	APMX	RE	LE
TOMT040204PXER-MM	4	2.2	0.6	3.5	0.4	3.6
TOMT040208PXER-MM	4	2.2	0.2	3.5	0.8	3.6

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Grades	Cutting speed vc (m/min)	Feed per tooth fz (mm/t)	
P	Low carbon steel SS400, S15C, etc. E275A, C15E4, etc.	- 200 HB	AH3225	100 - 250	0.05 - 0.12	
	Carbon steel and alloy steel S55C, SCM440, etc. C55, 42CrMo4, etc.	- 300 HB	AH3225	100 - 230	0.05 - 0.12	
	Prehardened steel NAK80, PX5, etc.	30 - 40 HRC	AH3225	100 - 180	0.05 - 0.1	
M	Stainless steel SUS304, etc. X5CrNi18-9, etc.	-	AH3225	90 - 200	0.05 - 0.1	
K	Grey cast iron FC250, etc. 250, etc., GG25, etc.	150 - 250 HB	AH120	100 - 300	0.05 - 0.12	
	Ductile cast iron FCD450, etc. 450-10S, etc., GGG45, etc.	150 - 250 HB	AH120	100 - 200	0.05 - 0.12	
S	Titanium alloys Ti-6Al-4V, etc.	-	AH3225	20 - 60	0.04 - 0.07	
	Heat-resistant alloys Inconel 718, etc.	-	AH8015	20 - 40	0.04 - 0.07	
H	Hardened steel	SKD61, etc. X40CrMoV5-1, etc.	40 - 50 HRC	AH8015	50 - 150	0.04 - 0.07
		SKD11, etc. X153CrMoV12, etc.	50 - 60 HRC	AH8015	40 - 70	0.04 - 0.07

TUNG-TRI 04

Lighter cutting and better chip control of broader application range



12° rake

Light cutting geometry with high rake angle

Large wiper radius provides improved surface quality



Large radius wiper

GRADES

AH3225 P M S

- Nano multi-layer coating technology with three major properties for optimal cutting edge integrity
- Increased resistance to wear, fracture, oxidation, built-up edge, and delamination

AH120 P K

- PVD grade with a well-balanced wear and fracture resistance
- Ideal for general machining of steel and stainless steel

AH8015 H S

- Incorporates a hard coating layer and carbide substrate
- Strong resistance to wear, heat, and built-up edge, ideal for machining hard or difficult materials

TUNG F REC

SHOULDER MILLING CUTTERS

• INSERTS WITH UNIQUE V-SHAPED BOTTOM FOR MAXIMUM RIGIDITY

The use of unique V shaped bottom inserts enables the cutter to have higher tool rigidity and carry a greater number of inserts compared with conventional milling cutters.

BUY 10 inserts per pocket

AND
GET 1 cutter

Maximum purchase of 50 inserts required

FREE
of charge!

Promo code: TG117

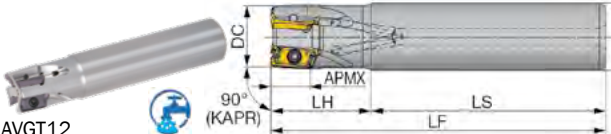
CUTTERS ON THE PROMO



EPV12

High-end square shoulder endmill

- With coolant holes
- Use insert: AVMT12, AVGT12



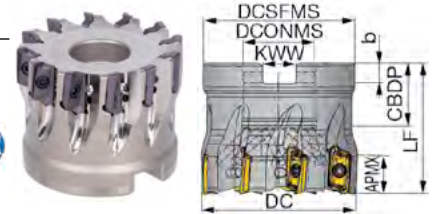
PART#:	APMX	DC	z*	DCONMS	LS	LH	LF	WT (lb)	Insert
EPAV12U0.62W0.62R03	0.453	0.625	3	0.625	1.906	1.000	2.906	0.220	AVM/GT12...
EPAV12U0.75W0.75R04	0.453	0.750	4	0.750	2.031	1.250	3.281	0.330	AVM/GT12...
EPAV12U1.00W1.00R06	0.453	1.000	6	1.000	2.281	1.500	3.781	0.710	AVM/GT12...
EPAV12U1.25W1.25R08	0.453	1.250	8	1.250	2.281	1.500	3.781	1.150	AVM/GT12...
EPAV12U0.62C0.62R02L	0.453	0.625	2	0.625	4.250	1.500	5.750	0.440	AVM/GT12...
EPAV12U0.75C0.75R03L	0.453	0.750	3	0.750	5.250	2.000	7.250	0.790	AVM/GT12...
EPAV12U1.00C1.00R03L	0.453	1.000	3	1.000	5.750	2.750	8.500	1.650	AVM/GT12...
EPAV12U1.25C1.25R03L	0.453	1.25	3	1.250	7.000	3.000	10.000	3.150	AVM/GT12...

* z = No. of inserts

TPAV12

High-end square shoulder mill

- With coolant holes



PART#:	APMX	DC	z*	DCSFMS	DCONMS	CBDDP
TPAV12U2.00B0.75R12	0.453	2.000	12	1.772	0.750	0.750

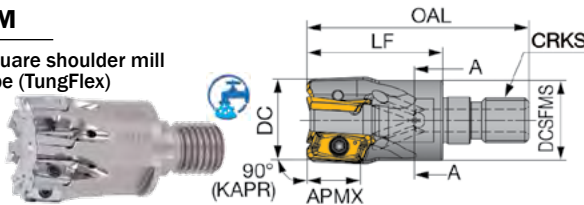
* z = No. of inserts

LF	KWW	b	WT (lb)	Insert
1.575	0.315	0.197	0.840	AVM/GT12...

HPAV12-M

High-end square shoulder mill modular type (TungFlex)

- With coolant holes



- Dimensions shown in mm
- APMX = 11.5mm (.453")

PART#:	DC	z*	OAL	LF	H	DCSFMS	CRKS
HPAV12M016M08R02	16	2	42	25	10	14.5	M8
HPAV12M016M08R03	16	3	42	25	10	14.5	M8
HPAV12M020M10R03	20	3	49	30	15	17.8	M10
HPAV12M020M10R04	20	4	49	30	15	17.8	M10
HPAV12M025M12R04	25	4	57	35	17	23	M12
HPAV12M025M12R06	25	6	57	35	17	23	M12
HPAV12M032M16R06	32	6	63	40	22	28.8	M16
HPAV12M032M16R08	32	8	63	40	22	28.8	M16
HPAV12M040M16R06	40	6	63	40	22	28.8	M16
HPAV12M040M16R08	40	8	63	40	22	28.8	M16



STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Priority	Grades	Cutting speed vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steel 1028, etc.	- 200 HB	First choice	AH3225	328 - 984	0.002 - 0.009
		- 200 HB	Wear resistance	T3225	656 - 1312	0.002 - 0.007
	Carbon steel and alloy steel 1045, etc.	- 300 HB	First choice	AH3225	328 - 820	0.002 - 0.009
		- 300 HB	Wear resistance	T3225	656 - 1312	0.002 - 0.007
	Prehardend steel NAK80, PX5, etc.	30 - 40 HRC	First choice	AH3225	328 - 656	0.002 - 0.009
		30 - 40 HRC	Wear resistance	T3225	656 - 1312	0.002 - 0.006
M	Stainless steel 304SS, etc.	-	First choice	AH3225	262 - 591	0.003 - 0.008
K	Grey cast iron No. 250B, etc.	150 - 250 HB	First choice	AH120	328 - 984	0.002 - 0.005
		150 - 250 HB	Wear resistance	T1215	656 - 1312	0.002 - 0.007
	Ductile cast iron 60-40-18, etc.	150 - 250 HB	First choice	AH120	328 - 820	0.002 - 0.005
		150 - 250 HB	Wear resistance	T1215	492 - 984	0.002 - 0.007
N	Aluminum alloys Si < 13%	-	First choice	KS05F	984 - 4921	0.002 - 0.013
	Aluminum alloys Si ≥ 13%	-	First choice	KS05F	328 - 656	0.002 - 0.013
S	Titanium alloys Ti-6Al-4V, etc.	- 40 HRC	First choice	AH3225	66 - 197	0.002 - 0.006
	Superalloys Inconel718, etc.	- 40 HRC	First choice	AH120	66 - 131	0.002 - 0.006
H	Hardened steel	H13, etc.	40 - 50 HRC	First choice	AH120	164 - 492
		D2, etc.	50 - 60 HRC	First choice	AH120	131 - 230

INSERTS



AVMT12-MM

Single-sided, insert with 2 cutting edges for general purpose

AVGT12-AM

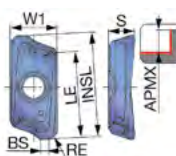
Single-sided, insert with 2 cutting edges for non-ferrous materials

CARBIDE GRADE APPLICATION

- ★ First choice
- ☆ Second choice

	Coated	Carbide
P	Steel	★
M	Stainless	★
K	Cast iron	★ ☆
N	Non-ferrous	★
S	Superalloys	★
H	Hard Materials	★

PART#:	W1	INSL	S	BS	LE	RE	APMX
AVMT120404PDER-MM	0.260	0.559	0.142	0.059	0.465	0.016	0.453
AVMT120408PDER-MM	0.260	0.559	0.142	0.043	0.465	0.031	0.453
AVMT120412PDER-MM	0.260	0.559	0.142	0.028	0.465	0.047	0.453
AVMT120416PDER-MM	0.260	0.559	0.142	0.012	0.465	0.063	0.453
AVMT120420PDER-MM	0.260	0.500	0.134	0.047	0.437	0.079	0.413
AVMT120430PDER-MM	0.260	0.500	0.134	0.008	0.437	0.118	0.413
AVGT120404PDFR-AM	0.260	0.559	0.142	0.059	0.465	0.016	0.453
AVGT120408PDFR-AM	0.260	0.559	0.142	0.043	0.465	0.031	0.453



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- REDUCE TIME FOR TOOL CHANGE
- HIGHLY ACCURATE
- NO RE-GRIND COST

CARBIDE GRADES:
AH715, AH725,
AH735, AH750



INCLUDED IN THE PROMO

HEADS



- VBD (Ball)
- VBE (Ball)
- VGA (Chamfering)
- VCP (Chamfering)
- VCW (Chamfering)
- VDS (Spot drill)
- VDP (Center drill)
- VED (Square)
- VEE (Square)
- VEH (Square)
- VFM (Face)
- VFX (High feed)
- VST (Slot)
- VTB (Slot)

SHANKS



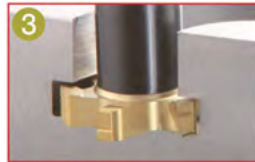
- VER, VSC, VSS, VSSD,
- VSTD, VTS, VTSO



Center drilling + chamfering
VDP head
2 flutes for center drilling + chamfering (DIN332)
- Range: from $\phi 0.129"$ to $\phi 0.254"$ with 60° chamfer



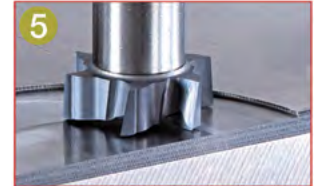
Shallow slotting
VST head
3, 4, 6 flutes for slot milling solution
- Form slotting operation
- Chamfering operation
- Width range: from 0.030" to 0.394" with slotting depth up to 0.236"



T-Slot milling
VTB head
6 flutes for high productivity
- Form slotting operation
- Slotting with corner radius and chamfer
- Width range: from 0.056" to 0.312" with slotting depth up to 0.190"



Roughing & finishing combination head
VEE-C head
4 flutes / 45° helix
- Reduces cutting load and vibration due to combined roughing and finishing flutes
- Range: from $\phi 0.312"$ to $\phi 0.750"$ with possibility to machine almost any material



Face milling head
VFM head
6 flutes for high productivity
- Cutting edge incorporates built-in wiper for better surface quality
- Dia. range: .472" to .984 (12-25mm)
- Max. depth of cut: .141" to .295"



Low cutting force, rough milling solution
VEE-R head
4, 5, 6 flutes / 45° helix
- High performance head with low cutting force
- Large depth of cut at high feed rates
- Range: from $\phi 0.312"$ to $\phi 0.750"$ with corner chamfer to reduce burr on the component



Chamfering, deburring, and countersinking solutions
VCA head
4, 6 flutes with center cutting edge
- Convenient design for deburring and countersinking, eliminating manual operation



Ballnose endmills for profiling and finishing operations
VBD / VBE-BG head
4 flutes / 30°, 45° helix
- High precision heads for finishing and profiling operations
- Range: from $\phi 0.250"$ to $\phi 0.750"$ with tight radius tolerances of $\pm 0.004"$ to $\pm 0.005"$



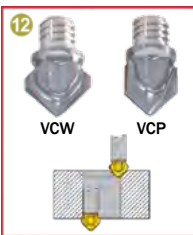
Highly productive, finish milling solution
VEE / VED head
6, 8, 10 flutes / 30°, 45°, 50° helix
- Suitable even for superalloy and hardened steel finishing
- Available in different helix angles to machine poorly clamped components
- Range: from $\phi 0.625"$ to $\phi 0.750"$ with corner radii from R0 to R0.062"



High feed in small diameters
VFX head
2 flutes / high feed milling solution for high productivity
- Range: from $\phi 0.375"$ to $\phi 0.750"$ with depth ranging from 0.020" to 0.059" and feed up to .079"/rev



Longer flute (1.5xD) for chatter free roughing & finishing
- Deep wall cutting
- Use with high rigidity holder shown on the right



VCW - 2 flute for countersinking top & bottom chamfering
VCP - 2 flute for spot drilling & chamfering

VSSD - HIGH RIGIDITY SHANK



PART#:	DCONMS	BD	LF	S*	Shank Material
VSSD06L050S04-S	6	5.8	50	S04	Steel
VSSD06L060S04-C	6	5.8	60	S04	Carbide
VSSD08L050S04-S	8	5.8	50	S04	Steel
VSSD08L060S04-C	8	5.8	60	S04	Carbide
VSSD10L055S05-S	10	7.6	55	S05	Steel
VSSD12L065S06-S	12	9.6	65	S06	Steel
VSSD16L065S08-S	16	11.6	65	S08	Steel
VSSD20L070S10-S	20	15.3	70	S10	Steel
VSSD25L075S12-S	25	18.3	75	S12	Steel
VSSD32L100S15-S	32	23.9	100	S15	Steel
VSSD40L100S21-S	40	30	100	S21	Steel

* S = connection size

SEE NEXT PAGE FOR MORE SHANK STYLES.

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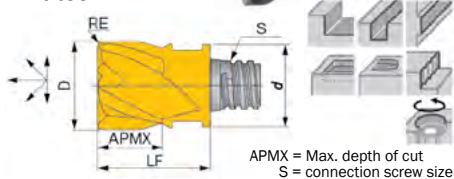
INDEXABLE & INTERCHANGEABLE CARBIDE CUTTERS

- MILL
- SLOT
- CHAMFER



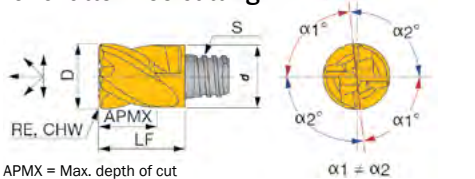
- REDUCE TIME FOR TOOL CHANGE
- HIGHLY ACCURATE
- NO RE-GRIND COST

VEE-04 (45°)**
VED-04 (30°)**
Square head with 4 flutes



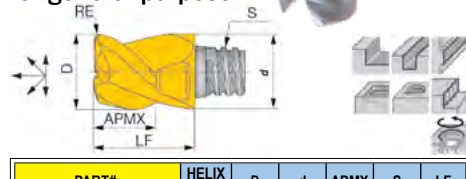
APMX = Max. depth of cut
S = connection screw size

VEE-1...**
Square head
4 flutes
with irregular pitch
for chatter free cutting



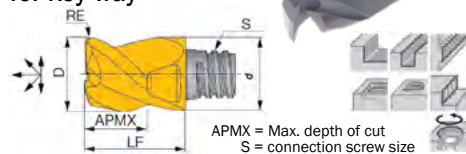
APMX = Max. depth of cut
S = connection screw size
CHW = Chamfer

VEE-03...**
Square head
with 3 flutes
for general purpose



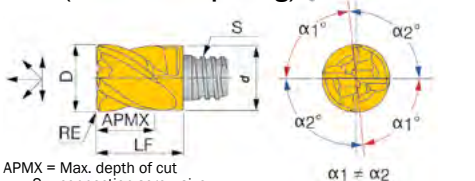
PART#:	HELIX ANGLE	D	d	APMX	S	LF
VEE031L20R000-U03S05	45°	0.312	0.300	0.200	S05	0.390
VEE031L27R000-U03S06	45°	0.375	0.370	0.275	S06	0.512
VEE050L37R000-U03S08	45°	0.500	0.488	0.374	S08	0.650

VEE-03... FOR KEY WAY**
Square head
with 3 flutes
for key way



PART#:	HELIX ANGLE	D	d	APMX	RE	S	LF
VEE077L04.0R02-03S05	38°	7.7	7.7	4	0.2	S05	10
VEE097L05.0R03-03S06	38°	9.7	9.7	5	0.3	S06	13
VEE117L07.0R03-03S08	38°	11.7	11.7	7	0.3	S08	16.5
VEE157L08.0R03-03S10	38°	15.7	15.3	8	0.3	S10	20.5
VEE197L12.0R04-03S12	38°	19.7	18.3	12	0.4	S12	25.5

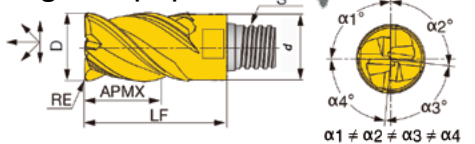
VEH... (METRIC)
Square head, 4 flutes,
variable pitch, variable
helix (chatter damping)



APMX = Max. depth of cut
S = connection screw size

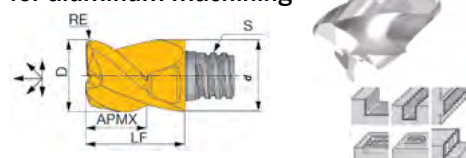
PART#:	HELIX ANGLE	D	d	APMX	RE	S	LF
VEH080L05.0R05104S05	35° - 39°	8	7.7	5	0.5	S05	10
VEH080L05.0R10104S05	35° - 39°	8	7.7	5	1	S05	10
VEH100L07.0R05104S06	35° - 39°	10	9.7	7	0.5	S06	13
VEH100L07.0R10104S06	35° - 39°	10	9.7	7	1	S06	13
VEH120L09.0R05104S08	35° - 39°	12	11.7	9	0.5	S08	16.5
VEH120L09.0R10104S08	35° - 39°	12	11.7	9	1	S08	16.5
VEH160L12.0R05104S10	35° - 39°	16	15.3	12	0.5	S10	20.5
VEH160L12.0R10104S10	35° - 39°	16	15.3	12	1	S10	20.5
VEH200L15.0R05104S12	35° - 39°	20	18.3	15	0.5	S12	25.5
VEH200L15.0R10104S12	35° - 39°	20	18.3	15	1	S12	25.5

VEH... (METRIC-LONG FLUTE)
4 flute square head,
long cutting edge,
for general purpose



PART#:	HELIX ANGLE	D	d	APMX	RE	S	LF
VEH080L12.0R05104S05	41° - 45°	8	7.7	12	0.5	S05	18
VEH080L12.0R10104S05	41° - 45°	8	7.7	12	1.0	S05	18
VEH100L15.0R05104S06	41° - 45°	10	9.7	15	0.5	S06	22
VEH100L15.0R10104S06	41° - 45°	10	9.7	15	1.0	S06	22
VEH120L18.0R05104S08	41° - 45°	12	11.7	18	0.5	S08	27
VEH120L18.0R10104S08	41° - 45°	12	11.7	18	1.0	S08	27
VEH160L24.0R05104S10	41° - 45°	16	15.3	24	0.5	S10	33.5
VEH160L24.0R10104S10	41° - 45°	16	15.3	24	1.0	S10	33.5
VEH200L30.0R05104S12	41° - 45°	20	18.45	30	0.5	S12	41
VEH200L30.0R10104S12	41° - 45°	20	18.45	30	1.0	S12	41

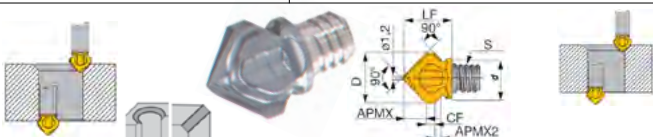
VEE-A03... FOR ALUMINUM**
Square head with 3 flutes
for aluminum machining



APMX = Max. depth of cut
S = connection screw size

PART#:	HELIX ANGLE	D	d	APMX	RE	S	LF
VEE031L20R020AU03S05	45°	0.312	0.300	0.200	0.020	S05	0.390
VEE031L20R031AU03S06	45°	0.375	0.360	0.230	0.031	S06	0.510
VEE031L20R062AU03S08	45°	0.375	0.360	0.230	0.062	S08	0.510
VEE050L31R031AU03S08	45°	0.500	0.488	0.315	0.031	S08	0.650
VEE050L31R062AU03S08	45°	0.500	0.488	0.315	0.062	S08	0.650
VEE050L31R094AU03S08	45°	0.500	0.488	0.315	0.094	S08	0.650
VEE050L31R125AU03S08	45°	0.500	0.488	0.315	0.125	S08	0.650
VEE062L39R000AU03S10	45°	0.625	0.600	0.390	-	S10	0.810
VEE062L39R031AU03S10	45°	0.625	0.600	0.390	0.031	S10	0.810
VEE062L39R062AU03S10	45°	0.625	0.600	0.390	0.062	S10	0.810
VEE062L39R094AU03S10	45°	0.625	0.600	0.390	0.094	S10	0.810
VEE062L39R125AU03S10	45°	0.625	0.600	0.390	0.125	S10	0.810
VEE075L47R062AU03S12	45°	0.750	0.720	0.470	0.062	S12	1.000
VEE075L47R094AU03S12	45°	0.750	0.720	0.470	0.094	S12	1.000
VEE075L47R125AU03S12	45°	0.750	0.720	0.470	0.125	S12	1.000
VEE075L50R080AU03S12	45°	0.750	0.720	0.500	0.008	S12	1.000
VEE075L50R020AU03S12	45°	0.750	0.720	0.500	0.020	S12	1.000

VCW-02**
Countersinking,
top and bottom
chamfering



APMX = Max. depth of cut
S = Connection screw size

PART#:	D	d	APMX	APMX2	CF	CRKS	LF	Wrench
VCW118L05.0A45-02S06	11.8	9.3	5	1.2	2	S06	11.2	KEYV-S08

Also capable of reverse chamfering
* The wrench size for these heads is different from the ones for the other head types.

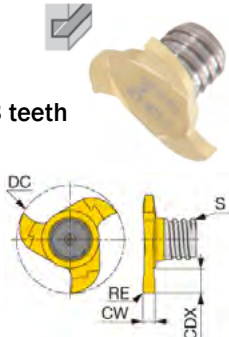


TUNGMEISTER

SLOTTING & T-SLOTTING HEADS

VST**-3

head for slotting of
.047" - .125" width
(1.2 - 3.17mm) with 3 teeth

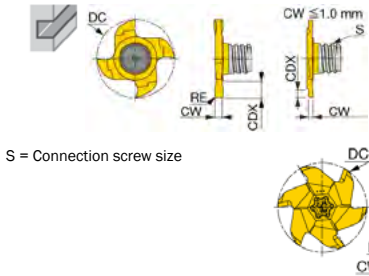


(1) CW is based on DIN471/472.
* Torque: Recommended clamping torque: N • m

PART#:	DC	CW ^{±0.02}	RE	S	CDX	#FL	GH130	Wrench	Torque*
VST157W1.50R010-3S06	15.7	1.5	0.1	S06	2.8	3	•	KEYV-177	10
VST157W1.57R020-3S06	15.7	1.57	0.2	S06	2.8	3	•	KEYV-177	10
VST157W2.00R020-3S06	15.7	2	0.2	S06	2.8	3	•	KEYV-177	10
VST157W2.39R020-3S06	15.7	2.39	0.2	S06	2.8	3	•	KEYV-177	10
VST157W2.50R020-3S06	15.7	2.5	0.2	S06	2.8	3	•	KEYV-177	10
VST157W3.00R020-3S06	15.7	3	0.2	S06	2.8	3	•	KEYV-177	10
VST157W3.17R020-3S06	15.7	3.17	0.2	S06	2.8	3	•	KEYV-177	10
VST177W1.20R005-3S06	17.7	1.2(1)	0.05	S06	3.8	3	•	KEYV-177	10
VST177W1.40R005-3S06	17.7	1.4(1)	0.05	S06	3.8	3	•	KEYV-177	10
VST177W1.50R010-3S06	17.7	1.5	0.1	S06	3.8	3	•	KEYV-177	10
VST177W1.57R020-3S06	17.7	1.57	0.2	S06	3.8	3	•	KEYV-177	10
VST177W1.70R005-3S06	17.7	1.7(1)	0.05	S06	3.8	3	•	KEYV-177	10
VST177W2.00R020-3S06	17.7	2	0.2	S06	3.8	3	•	KEYV-177	10
VST177W2.20R110-3S06	17.7	2.2	1.1	S06	3.8	3	•	KEYV-177	10
VST177W2.39R020-3S06	17.7	2.39	0.2	S06	3.8	3	•	KEYV-177	10
VST177W2.50R020-3S06	17.7	2.5	0.2	S06	3.8	3	•	KEYV-177	10
VST177W3.00R020-3S06	17.7	3	0.2	S06	3.8	3	•	KEYV-177	10
VST177W3.17R020-3S06	17.7	3.17	0.2	S06	3.8	3	•	KEYV-177	10

VST**-4, 6

head for slotting of
.030" - .394" width
(.076 - 10mm)
with 4 and 6 teeth



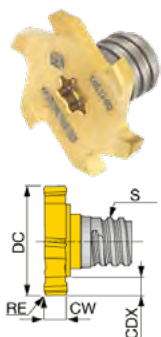
S = Connection screw size

(1) CW is based on DIN471/472.
* Torque: Recommended clamping torque: N • m
• Dimensions shown in mm

PART#:	DC	CW ^{±0.02}	RE	S	CDX	#FL	GH130	Wrench	Torque*
VST217W0.76R000-4S08	21.7	0.76(1)	-	S08	1.5	4	•	KEYV-217	15
VST217W0.86R000-4S08	21.7	0.86(1)	-	S08	1.7	4	•	KEYV-217	15
VST217W0.96R000-4S08	21.7	0.96(1)	-	S08	1.9	4	•	KEYV-217	15
VST217W1.00R005-4S08	21.7	1	0.05	S08	2	4	•	KEYV-217	15
VST217W1.20R005-4S08	21.7	1.2(1)	0.05	S08	4.5	4	•	KEYV-217	15
VST217W1.40R005-4S08	21.7	1.4(1)	0.05	S08	4.5	4	•	KEYV-217	15
VST217W1.57R000-4S08	21.7	1.57	-	S08	4.5	4	•	KEYV-217	15
VST217W1.70R010-4S08	21.7	1.7(1)	0.1	S08	4.5	4	•	KEYV-217	15
VST217W1.95R020-4S08	21.7	1.95(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST217W2.00R020-4S08	21.7	2	0.2	S08	4.5	4	•	KEYV-217	15
VST217W2.25R020-4S08	21.7	2.25(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST217W2.39R020-4S08	21.7	2.39	0.2	S08	4.5	4	•	KEYV-217	15
VST217W2.50R020-4S08	21.7	2.5	0.2	S08	4.5	4	•	KEYV-217	15
VST217W2.75R020-4S08	21.7	2.75(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST217W3.00R020-4S08	21.7	3	0.2	S08	4.5	4	•	KEYV-217	15
VST217W3.17R020-4S08	21.7	3.17	0.2	S08	4.5	4	•	KEYV-217	15
VST217W3.25R020-4S08	21.7	3.25(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST217W4.00R020-4S08	21.7	4	0.2	S08	4.5	4	•	KEYV-217	15
VST217W4.25R020-4S08	21.7	4.25(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST217W4.75R020-4S08	21.7	4.75	0.2	S08	4.5	4	•	KEYV-217	15
VST217W5.25R020-4S08	21.7	5.25(1)	0.2	S08	4.5	4	•	KEYV-217	15
VST277W2.50R020-6S10	27.7	2.5	0.2	S10	6	6	•	KEYV-T40L	28
VST277W5.25R020-6S10	27.7	5.25	0.2	S10	6	6	•	KEYV-T40L	28
VST277W10.0R020-6S10	27.7	10	0.2	S10	6	6	•	KEYV-T40L	28

VTB**-06...

head for T-slotting
of 0.125" - 0.312" width



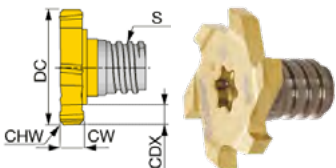
S = Connection screw size

* Torque: Recommended clamping torque: lbs • ft

PART#:	DC ^{0-0.002"}	CW ^{±0.0008"}	RE	S	CDX	#FL	GH130	Wrench	Torque*
VTB05W125R016-U06S05	0.500	0.125	0.016	S05	0.088	6	•	KEYV-T20	5.16
VTB06W056R016-U06S06	0.625	0.056	0.016	S06	0.125	6	•	KEYV-T20	7.38
VTB06W063R016-U06S06	0.625	0.063	0.016	S06	0.125	6	•	KEYV-T20	7.38
VTB06W068R016-U06S06	0.625	0.068	0.016	S06	0.125	6	•	KEYV-T20	7.38
VTB06W078R016-U06S06	0.625	0.078	0.016	S06	0.125	6	•	KEYV-T20	7.38
VTB06W086R016-U06S06	0.625	0.086	0.016	S06	0.125	6	•	KEYV-T25	7.38
VTB06W105R016-U06S06	0.625	0.105	0.016	S06	0.125	6	•	KEYV-T25	7.38
VTB06W125R016-U06S06	0.625	0.125	0.016	S06	0.125	6	•	KEYV-T25	7.38
VTB06W156R016-U06S08	0.625	0.156	0.016	S06	0.125	6	•	KEYV-T25	7.38
VTB07W156R016-U06S08	0.750	0.156	0.016	S08	0.120	6	•	KEYV-T30L	11.06
VTB07W187R016-U06S08	0.750	0.187	0.016	S08	0.120	6	•	KEYV-T30L	11.06
VTB07W250R016-U06S08	0.750	0.250	0.016	S08	0.120	6	•	KEYV-T30L	11.06
VTB08W187R016-U06S08	0.875	0.187	0.015	S08	0.190	6	•	KEYV-T40L	11.06
VTB08W250R016-U06S08	0.875	0.250	0.015	S08	0.190	6	•	KEYV-T40L	11.06
VTB08W312R016-U06S08	0.875	0.312	0.015	S08	0.190	6	•	KEYV-T40L	11.06
VTB10W187R016-U06S10	1.000	0.187	0.015	S10	0.177	6	•	KEYV-T50L	20.65
VTB10W250R016-U06S10	1.000	0.250	0.015	S10	0.177	6	•	KEYV-T50L	20.65

VTB**-C006...

T-slotting of
0.062" - 0.078" width
w/ chamfered edges

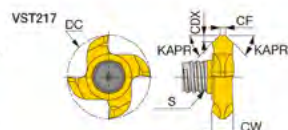
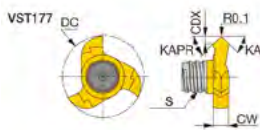


PART#:	DC ^{0-0.002"}	CW ^{±0.0008"}	CDX	S	CHW	GH130	#FL	Wrench	Torque*
VTB05W062C006-U06S05	0.500	0.062	0.089	S05	0.006	•	6	KEYV-T20	5.16
VTB05W078C006-U06S05	0.500	0.078	0.089	S05	0.006	•	6	KEYV-T20	5.16

* Torque: Recommended clamping torque: lbs • ft

VST**-A45...

TungMeister head for
chamfering on slots



CRKS = Connection screw size

PART#:	DC	CW	KARP	S	CDX	CF	GH130	#FL	Wrench	Torque*
VST177L01.40A45-3S06	17.7	3.4	45°	S06	1.4	-	•	3	KEYV-177	10
VST217L01.70A45-4S08	21.7	5.5	45°	S08	1.7	1.5	•	4	KEYV-217	15

Dimensions shown in mm

* Torque: Recommended clamping torque: N • m



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SHANKS FOR INTERCHANGEABLE CARBIDE CUTTERS



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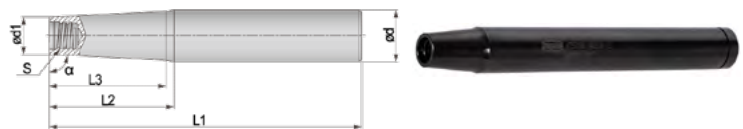
VSS TYPE SHANKS - STRAIGHT SHANK & NECK

Cylindrical Shank



NOTE: METRIC SHANKS ARE AVAILABLE - PLEASE INQUIRE

VTS TYPE SHANKS - STRAIGHT SHANK WITH TAPERED NECK



PART #	Ød	Ød1	L1	L2	L3	S*	SHANK MATERIAL
VSS031L250S05US	0.312	0.300	2.500	0.590	0.510	S05	Steel
VSS031L300S05UC	0.312	0.300	3.000	1.000	0.950	S05	Carbide
VSS031L350S05UC	0.312	0.300	3.500	1.500	1.450	S05	Carbide
VSS031L400S05UC	0.312	0.300	4.000	2.000	1.950	S05	Carbide
VSS031L400S05UW	0.312	0.299	3.000	1.000	0.978	S05	Tungsten
VSS031L450S05UW	0.312	0.299	4.500	2.000	1.978	S05	Tungsten
VSS037L300S06US	0.375	0.364	3.000	0.787	0.768	S06	Steel
VSS037L400S06UC	0.375	0.364	4.000	1.250	1.200	S06	Carbide
VSS037L475S06UC	0.375	0.364	4.750	2.000	1.950	S06	Carbide
VSS037L355S06UW	0.375	0.364	3.550	0.750	0.680	S06	Tungsten
VSS050L350S08US	0.500	0.480	3.540	0.630	0.530	S08	Steel
VSS050L400S08UC	0.500	0.480	4.000	1.500	1.400	S08	Carbide
VSS050L550S08UC	0.500	0.480	5.500	2.500	2.450	S08	Carbide
VSS050L425S08UW	0.500	0.480	4.250	0.630	0.530	S08	Tungsten
VSS062L400S10US	0.625	0.598	4.000	0.780	0.680	S10	Steel
VSS062L325S10UC	0.625	0.600	3.250	1.250	1.180	S10	Carbide
VSS062L450S10UC	0.625	0.600	4.500	2.500	2.430	S10	Carbide
VSS062L550S10UC	0.625	0.600	5.500	3.500	3.430	S10	Carbide
VSS062L700S10UC	0.625	0.600	7.000	5.000	4.930	S10	Carbide
VSS075L500S12US	0.750	0.720	5.000	1.000	0.880	S12	Steel
VSS075L400S12UC	0.750	0.720	4.000	1.500	1.430	S12	Carbide
VSS075L550S12UC	0.750	0.720	5.500	3.000	2.930	S12	Carbide
VSS075L600S12UC	0.750	0.720	6.000	4.500	4.430	S12	Carbide
VSS100L537S15US	1.000	0.957	5.375	1.375	1.313	S15	Steel
VSS100L475S15UC	1.000	0.957	4.750	2.375	2.313	S15	Carbide
VSS100L675S15UC	1.000	0.957	6.750	4.000	3.938	S15	Carbide
VSS100L1000S15UC	1.000	0.957	10.000	6.000	5.938	S15	Carbide

* S = Connection size

STRAIGHT SHANKS WITH WELDON SHANK

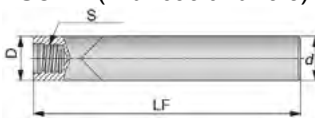


DIM.	PART #	Ød	Ød1	L1	L2	L3	S	SHANK MATERIAL
INCH	VSS050L218W05US	0.500	0.299	2.185	0.150	-	S05	STEEL
	VSS062L258W06US	0.625	0.366	2.580	0.236	-	S06	STEEL
	VSS062L258W08US	0.625	0.480	2.580	0.157	-	S08	STEEL
	VSS075L275W10US	0.750	0.598	2.750	0.157	-	S10	STEEL
VSS100L300W12US	1.000	0.720	3.000	0.283	-	S12	STEEL	
METRIC	VSSD12L055W05-S	12	7.6	55	3.8	-	S05	STEEL
	VSSD16L065W06-S	16	9.6	65	6	-	S06	STEEL
	VSSD16L065W08-S	16	11.5	65	4	-	S08	STEEL
	VSSD20L070W10-S	20	15.2	70	4	-	S10	STEEL
	VSSD25L075W12-S	25	18.3	75	6	-	S12	STEEL

SHANKS FOR SLOTTING HEADS

VSC... (without coolant hole)
VSC...A (with coolant hole)

CARBIDE SHANKS FOR VST SLOTTING HEADS



DIMENSIONS IN	PART #	d	D	LF	S
INCH	VSC095L080S06-C	0.375	0.375	3.150	S06
INCH	VSC127L120S08-C-A	0.500	0.500	4.724	S08
METRIC	VSC100L100S06-C	10	10	100	S06
METRIC	VSC120L100S08-C-A	12	12	100	S08

Note: • For VSC type shank, just VST slotting head is recommended.
If other heads are used on the VSC shank, the depth of cut must be smaller than the APMX in each head.
The VSC type shank does not have external clearance, so the shank may interfere with the work piece.

VSTD... steel shanks for VTB type T-slotting heads

Dimensions shown in mm



PART #	d	D	LF	S
VSTD06L07504-S	6	6	70	S04
VSTD08L07505-S	8	8	70	S05
VSTD10L08506-S	10	10	80	S06
VSTD12L090S08-S	12	12	90	S08
VSTD16L100S10-S	16	16	100	S10

For VSTD type shank, just VTB T-slotting head is recommended.
If other heads are used on the VSTD shank, the depth of cut must be smaller than the max. ap in each head.
The VSTD type shank does not have external clearance, so the shank may interfere with the work piece.

* S = Connection size

VER ER COLLET ADAPTOR



PART #	SS	BD	LF	S	SHANK MATERIAL
VER11AL006S04-S	ER11	5.8	6	S04	STEEL
VER11AL006S05-S	ER11	7.9	6	S05	STEEL
VER11AL020S05-S	ER11	7.9	20	S05	STEEL
VER16AL012S05-S	ER16	7.9	12	S05	STEEL
VER16AL020S05-S	ER16	7.9	20	S05	STEEL
VER16AL010S06-S	ER16	9.9	10	S06	STEEL
VER16AL020S06-S	ER16	9.9	20	S06	STEEL
VER16AL006S08-S	ER16	11.6	6	S08	STEEL
VER16AL020S08-S	ER16	11.6	20	S08	STEEL

VSTD... steel shanks for VTB slotting heads



DIMENSIONS IN	PART #	d	D	LF	S
INCH	VST03L127S0505US	0.312	0.312	2.750	S05
INCH	VST037L325S0606US	0.375	0.375	3.250	S06
INCH	VST050L375S0808US	0.500	0.500	3.750	S08
INCH	VST062L400S1010US	0.625	0.625	4.000	S10
METRIC	VSTD08L070S05-S	8	8	70	S05
METRIC	VSTD10L080S06-S	10	10	80	S06
METRIC	VSTD12L090S08-S	12	12	90	S08
METRIC	VSTD16L100S10-S	16	16	100	S10

Note: • For VSTD type shank, just VTB slotting head is recommended.
If other heads are used on the VSTD shank, the depth of cut must be smaller than the max. ap in each head.
The VSTD type shank does not have external clearance, so the shank may interfere with the work piece.

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