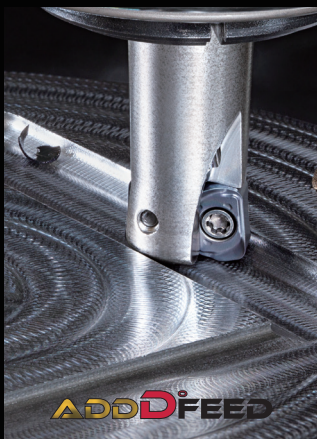


we improve...
we evolve...
we ADD



ADDFORCE INDEXABLE MILLING PROMOTIONS



Valid from 1 October, 2021 to 31 March, 2022

SMALL DIAMETER HIGH FEED MILLING SOLUTION

Highly successful DoFeed series now available in smaller 8 mm 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

**FREE
of Charge!**

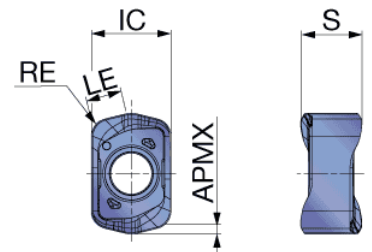
Minimum purchase 20 inserts, maximum purchase 50 inserts

Small, robust double-sided 4 cutting edged insert for high feed milling

- Double-sided, 4-cutting edged insert - an unprecedented insert design for cutters in the small diameter range
- Small inserts enable close pitch and rigid cutter body design
- Optimized jet coolant delivery effectively removes chip and prevents it from being re-cut

LNMU02-MM : Double sided insert with 4 edges and MM chipbreaker

Designation	RE	APMX	LE	IC	S	LIST PRICE
LNMU0202ZER-MM AH130	0.9	0.5	1.79	4	3.1	£9.66
LNMU0202ZER-MM AH8015	0.9	0.5	1.79	4	3.1	£9.66
LNMU0202ZER-MM AH3225	0.9	0.5	1.79	4	3.1	£9.66



STANDARD CUTTING CONDITIONS

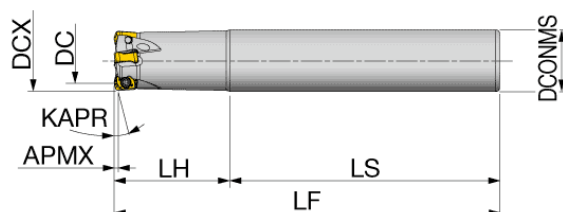
ISO	Workpiece materials	Hardness	Priority	Grades	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Carbon steels S45C / C45, S55C / C55, etc.	- 300HB	First choice	AH3225	100 - 300	0.2 - 1.2
		- 300HB	For wear resistance	AH8015	100 - 300	0.2 - 1.2
	Alloy steels SCM440 / 42CrMo4, etc.	- 300HB	First choice	AH3225	100 - 300	0.2 - 1.2
		- 300HB	For wear resistance	AH8015	100 - 300	0.2 - 1.2
M	Prehardened steels NAK80, PX5, etc.	30 - 40HRC	First choice	AH8015	100 - 200	0.2 - 0.8
		30 - 40HRC	For impact resistance	AH3225	100 - 200	0.2 - 0.8
M	Stainless steels SUS304 / X5CrNi18-9, SUS316 / X5CrNiMo17-12-3, etc.	- 200HB	First choice	AH130	100 - 150	0.2 - 0.8
K	Gray cast irons FC250 / 250 / GG25, FC300 / 300 / GG30, etc.	150 - 250HB	First choice	AH8015	100 - 300	0.2 - 1.2
		150 - 250HB	For impact resistance	AH3225	100 - 300	0.2 - 1.2
	Ductile cast irons FCD600 / 600-3 / GG60, etc.	150 - 250HB	First choice	AH8015	80 - 200	0.2 - 1.2
		150 - 250HB	For impact resistance	AH3225	80 - 200	0.2 - 1.2
S	Titanium alloy Ti-6Al-4V, etc.	- 40HRC	First choice	AH130	30 - 60	0.2 - 0.7
		- 40HRC	For wear resistance	AH8015	30 - 60	0.2 - 0.7
	Heat resistant alloy Inconel, Hastelloy, etc.	- 40HRC	First choice	AH8015	20 - 50	0.1 - 0.3
		- 40HRC	For impact resistance	AH3225	20 - 50	0.1 - 0.3
H	Hardened steel	SKD61 / X40CrMoV5-1, etc.	First choice	AH8015	80 - 150	0.1 - 0.5
		40 - 50HRC	For impact resistance	AH3225	80 - 150	0.1 - 0.5
		SKD11 / X153CrMoV12, etc.	First choice	AH8015	50 - 70	0.1 - 0.3



LNMU02-MM

Double-sided insert
with 4 cutting edges

EXN02 : High feed endmill, round shank type, with 4-corner double sided inserts

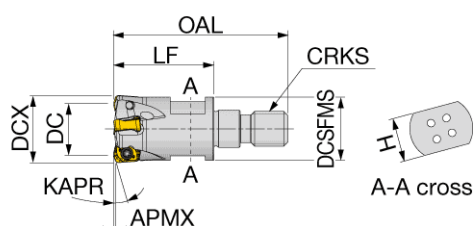


GAMP = +6°
GAMF = +5° ~ +11°



Designation	Z	APMX	DC	DCX	DCONMS	LS	LF	LH	KAPR	LIST PRICE	DEAL
EXN02R008M08.0-01	1	0.5	3.95	8	8	59	75	16	17	£173.29	Free with 20 inserts
EXN02R008M08.0-01L	1	0.5	3.95	8	8	59	90	31	17	£185.30	Free with 20 inserts
EXN02R010M10.0-02	2	0.5	5.85	10	10	60	80	20	17	£173.29	Free with 20 inserts
EXN02R010M10.0-02L	2	0.5	5.85	10	10	60		40	17	£185.30	Free with 20 inserts
EXN02R012M12.0-02	2	0.5	7.8	12	12	60	80	20	17	£177.56	Free with 20 inserts
EXN02R012M12.0-02L	2	0.5	7.8	12	12	60		50	17	£190.02	Free with 20 inserts
EXN02R016M16.0-03L	3	0.5	11.8	16	16	70		50	17	£212.44	Free with 30 inserts
EXN02R016M16.0-04	4	0.5	11.8	16	16	70		30	17	£211.01	Free with 40 inserts
EXN02R020M20.0-04L	4	0.5	15.8	20	20	80		80	17	£271.41	Free with 40 inserts
EXN02R020M20.0-05	5	0.5	15.8	20	20	80		50	17	£272.69	Free with 50 inserts
EXN02R025M25.0-06L	6	0.5	20.8	25	25	80			17	£317.91	Free with 50 inserts
EXN02R025M25.0-07	7	0.5	20.8	25	25	80		60	17	£317.94	Free with 50 inserts

HXN02-M : High feed endmill, modular type, with 4-corner double sided inserts



GAMP = +6°
GAMF = +5° ~ +11°



Designation	Z	APMX	DC	DCX	DCSFMS	CRKS	OAL	LF	H	KAPR	LIST PRICE	DEAL
HXN02R008MM06-01	1	0.5	3.95	8	9.5	M6	33.5	19	7	17	£164.16	Free with 20 inserts
HXN02R010MM06-02	2	0.5	5.85	10	9.5	M6	31.5	17	7	17	£164.16	Free with 20 inserts
HXN02R012MM06-02	2	0.5	7.8	12	10	M6	31.5	17	7	17	£172.80	Free with 20 inserts
HXN02R016MM08-04	4	0.5	11.8	16	14.5	M8	40	23	10	17	£205.24	Free with 40 inserts
HXN02R020MM10-05	5	0.5	15.8	20	17.8	M10	49	30	15	17	£264.78	Free with 50 inserts
HXN02R025MM12-07	7	0.5	20.8	25	23	M12	52	30	17	17	£308.69	Free with 50 inserts

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.

**BUY 10 inserts
per pocket**

AND

GET 1 cutter

**FREE
of charge!**

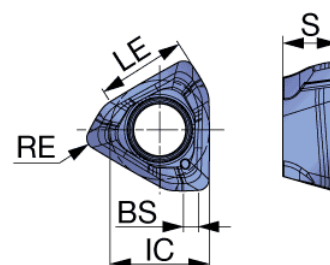
Minimum purchase 20 inserts, maximum purchase 50 inserts

Size 04 insert enables high productivity machining at small diameters

- 3 cutting-edged insert provides economy and low cutting forces
- Lighter cutting and better chip control for broader application range
- Large wiper radius provides improved surface quality

TOMT04-MM : Single-sided insert with 3 edges and MM chipbreaker

Designation	RE	APMX	LE	IC	S	BS	LIST PRICE
TOMT040204PXER-MM AH120	0.4	3.5	3.6	4	2.2	0.6	£8.25
TOMT040204PXER-MM AH8015	0.4	3.5	3.6	4	2.2	0.6	£8.25
TOMT040204PXER-MM AH3225	0.4	3.5	3.6	4	2.2	0.6	£8.25
TOMT040208PXER-MM AH120	0.8	3.5	3.6	4	2.2	0.2	£8.25
TOMT040208PXER-MM AH8015	0.8	3.5	3.6	4	2.2	0.2	£8.25
TOMT040208PXER-MM AH3225	0.8	3.5	3.6	4	2.2	0.2	£8.25



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
	Prehardend 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
	Titanium alloys Ti-6Al-4V, etc.	-	AH3225	20 - 60	0.04 - 0.07
S	Heat-resistant alloys Inconel 718, etc.	-	AH8015	20 - 40	0.04 - 0.07
H	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



TOMT04-MM
Single-sided insert
with 3 edges and
MM chipbreaker

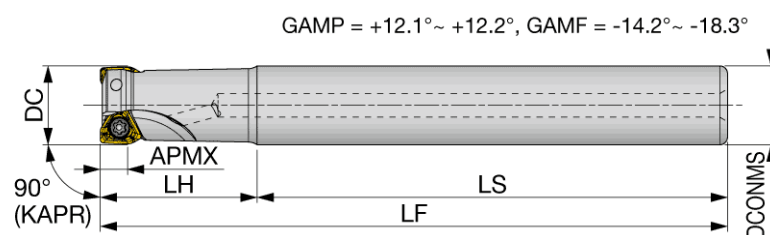
New Size 04 insert enables high productivity machining with small-diameter cutter

Lighter cutting and better chip control for broader application range



Depth of cut ap (mm)	3.5								
	3								
	2.5								
	2								
	1.5								
	1								
Applicable area	1	2	3	4	5	6	7	8	Width of cut: ae (mm)
TUNG-TRI 04									

EPA04 : High precision square shoulder endmill with triangular inserts



Designation	Z	APMX	DC	DCONMS	LS	LF	LH	LIST PRICE	DEAL
EPA04R008M08.0-01	1	3.5	8	8	48	60	12	£144.66	Free with 20 inserts
EPA04R010M10.0-02	2	3.5	10	10	60	80	20	£163.72	Free with 20 inserts
EPA04R010M10.0-02L	2	3.5	10	10	65	100	35	£167.00	Free with 20 inserts
EPA04R012M12.0-02	2	3.5	12	12	60	80	20	£160.05	Free with 20 inserts
EPA04R012M12.0-03	3	3.5	12	12	60	80	20	£171.23	Free with 30 inserts
EPA04R012M12.0-02L	2	3.5	12	12	85	120	35	£171.23	Free with 20 inserts
EPA04R016M16.0-03	3	3.5	16	16	70	90	20	£179.00	Free with 30 inserts
EPA04R016M16.0-04	4	3.5	16	16	70	90	20	£190.19	Free with 40 inserts
EPA04R016M16.0-03L	3	3.5	16	16	105	140	35	£191.53	Free with 30 inserts
EPA04R020M20.0-04	4	3.5	20	20	70	100	30	£228.62	Free with 40 inserts
EPA04R020M20.0-05	5	3.5	20	20	70	100	30	£245.79	Free with 50 inserts
EPA04R020M20.0-04L	4	3.5	20	20	165	200	35	£244.68	Free with 40 inserts
EPA04R025M25.0-05	5	3.5	25	25	80	115	35	£252.49	Free with 50 inserts
EPA04R025M25.0-06	6	3.5	25	25	80	115	35	£270.18	Free with 50 inserts
EPA04R025M25.0-04L	4	3.5	25	25	160	200	40	£252.49	Free with 40 inserts

VERSATILE SHOULDER MILLING CUTTER SERIES

NOW OFFERS **SIZE 12 INSERT** **WITH UNIQUE V-SHAPED BOTTOM** **FOR MAXIMUM PRODUCTIVITY**

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

BUY 10 inserts
per pocket

AND

GET 1 cutter

FREE
of charge!

Minimum purchase 20 inserts, maximum purchase 50 inserts

V-shaped insert location - a new generation of shoulder inserts

- High cutter density x high rigidity tool design = super high feed shouldering
- Low cutting force and anti-chipping performance
- General purpose (MM) chip breaker covers all materials with high level of performance

AVMT12-MM : Single-sided insert with 2 edges and MM chipbreaker for general purpose use

Designation	RE	APMX	INSL	LE	W1	S	BS	Grades			LIST PRICE	Grade	LIST PRICE
AVMT120404PDER-MM	0.4	11.5	14.2	11.8	6.6	3.6	1.5	AH120	AH3225	T3225	£10.04	T1215	£11.04
AVMT120408PDER-MM	0.8	11.5	14.2	11.8	6.6	3.6	1.1	AH120	AH3225	T3225	£10.04	T1215	£11.04
AVMT120412PDER-MM	1.2	11.5	14.2	11.8	6.6	3.6	0.7	AH120	AH3225	T3225	£10.04	T1215	£11.04
AVMT120416PDER-MM	1.6	11.5	14.2	11.8	6.6	3.6	0.3	AH120	AH3225	T3225	£10.04	T1215	£11.04
AVMT120420PDER-MM	2	10.5	12.7	11.1	6.6	3.4	1.2	AH120	AH3225	T3225	£10.04	T1215	£11.04
AVMT120430PDER-MM	3	10.5	12.7	11.1	6.6	3.4	0.2	AH120	AH3225	T3225	£10.04	T1215	£11.04

AVGT12-AM : Single-sided insert with 2 edges and AM chipbreaker for non-ferrous metal

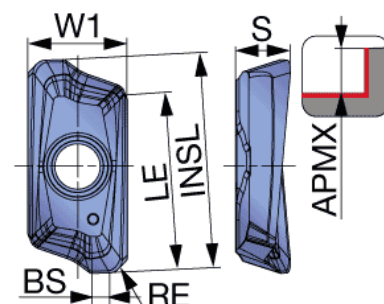
Designation	RE	APMX	INSL	LE	W1	S	BS	Grade	LIST PRICE
AVGT120404PDFR-AM	0.4	11.5	14.2	11.8	6.6	3.6	1.5	KS05F	£11.56
AVGT120408PDFR-AM	0.8	11.5	14.2	11.8	6.6	3.6	1.1	KS05F	£11.56



AVMT12-MM

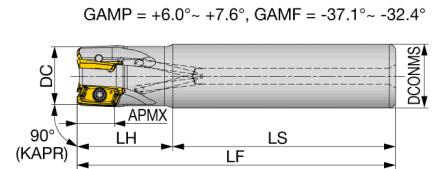


AVGT12-AM



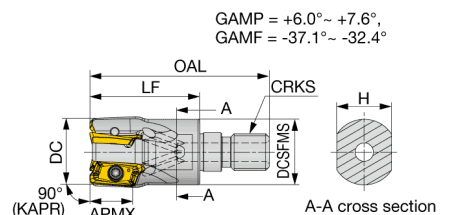
EPAV12 : Square shoulder milling cutter, Shank type

Designation	Z	APMX	DC	DCONMS	LS	LF	LH	KAPR	LIST PRICE	DEAL
EPAV12M012C12.0R01	1	11.5	12	12	60	85	25	90	£155.06	Free with 20 inserts
EPAV12M016C16.0R02	2	11.5	16	16	60	85	25	90	£173.42	Free with 20 inserts
EPAV12M016C16.0R03	3	11.5	16	16	60	85	25	90	£186.46	Free with 30 inserts
EPAV12M016C16.0R02L	2	11.5	16	16	105	145	40	90	£176.90	Free with 20 inserts
EPAV12M020C20.0R03	3	11.5	20	20	70	100	30	90	£221.50	Free with 30 inserts
EPAV12M020C20.0R04	4	11.5	20	20	70	100	30	90	£238.15	Free with 40 inserts
EPAV12M020C20.0R02L	2	11.5	20	20	135	185	50	90	£210.11	Free with 20 inserts
EPAV12M025C25.0R04	4	11.5	25	25	80	115	35	90	£244.62	Free with 40 inserts
EPAV12M025C25.0R06	6	11.5	25	25	80	115	35	90	£281.44	Free with 50 inserts
EPAV12M025C25.0R03L	3	11.5	25	25	150	220	70	90	£244.62	Free with 30 inserts
EPAV12M032C32.0R06	6	11.5	32	32	80	120	40	90	£303.07	Free with 50 inserts
EPAV12M032C32.0R08	8	11.5	32	32	80	120	40	90	£327.93	Free with 50 inserts
EPAV12M032C32.0R03L	3	11.5	32	32	175	255	80	90	£268.81	Free with 30 inserts



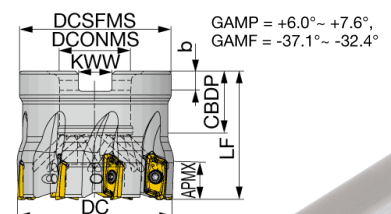
HPAV12-M : Square shoulder milling cutter, Modular head with TungFlex threaded adaptation

Designation	Z	APMX	DC	DCSFMS	CRKS	OAL	LF	H	LIST PRICE	DEAL
HPAV12M016M08R02	2	11.5	16	14.5	M8	42	25	10	£173.42	Free with 20 inserts
HPAV12M016M08R03	3	11.5	16	14.5	M8	42	25	10	£181.43	Free with 30 inserts
HPAV12M020M10R03	3	11.5	20	17.8	M10	49	30	15	£221.50	Free with 30 inserts
HPAV12M020M10R04	4	11.5	20	17.8	M10	49	30	15	£238.15	Free with 40 inserts
HPAV12M025M12R04	4	11.5	25	23	M12	57	35	17	£244.62	Free with 40 inserts
HPAV12M025M12R06	6	11.5	25	23	M12	57	35	17	£281.44	Free with 50 inserts
HPAV12M032M16R06	6	11.5	32	28.8	M16	63	40	22	£303.07	Free with 50 inserts
HPAV12M032M16R08	8	11.5	32	28.8	M16	63	40	22	£327.93	Free with 50 inserts
HPAV12M040M16R06	6	11.5	40	28.8	M16	63	40	22	£348.57	Free with 50 inserts
HPAV12M040M16R08	8	11.5	40	28.8	M16	63	40	22	£393.91	Free with 50 inserts



TPAV12 : Square shoulder milling cutter, Bore type

Designation	Z	APMX	DC	DCONMS	CBDP	DCSFMS	KWW	b	LF	LIST PRICE	DEAL
TPAV12M050B22.0R08	8	11.5	50	22	20	47	10.4	6.3	40	£453.02	Free with 50 inserts
TPAV12M050B22.0R12	12	11.5	50	22	20	47	10.4	6.3	40	£530.08	Free with 50 inserts
TPAV12M063B22.0R08	8	11.5	63	22	20	47	10.4	6.3	40	£511.95	Free with 50 inserts
TPAV12M063B22.0R14	14	11.5	63	22	20	47	10.4	6.3	40	£639.95	Free with 50 inserts



STANDARD CUTTING CONDITIONS						
ISO	Workpiece materials	Hardness	Priority	Grades	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steel S15C / C15E / C15E4, SS400 / E275A, etc.	- 200 HB	First choice	AH3225	100 - 300	0.06 - 0.22
		- 200 HB	Wear resistance	T3225	200 - 400	0.06 - 0.18
	Carbon steel and alloy steel S55C / C55, SCM440 / 42CrMo4, etc.	- 300 HB	First choice	AH3225	100 - 250	0.06 - 0.22
		- 300 HB	Wear resistance	T3225	200 - 400	0.06 - 0.18
M	Prehardened steel NAK80, PX5, etc.	30 - 40 HRC	First choice	AH3225	100 - 200	0.06 - 0.22
		30 - 40 HRC	Wear resistance	T3225	200 - 400	0.06 - 0.15
K	Stainless steel SUS304 / X5CrNi18-9, SUS316 / X5CrNiMo17-12-3, etc.	-	First choice	AH3225	80 - 180	0.07 - 0.2
		-	Wear resistance	T3225	200 - 400	0.06 - 0.18
	Grey cast iron FC250 / GG25 / 250, FC300 / GG30 / 300, etc.	150 - 250 HB	First choice	AH120	100 - 300	0.05 - 0.12
		150 - 250 HB	Wear resistance	T1215	200 - 400	0.05 - 0.18
N	Ductile cast iron FCD400, FCD600 / GG60 / 600-3, etc.	150 - 250 HB	First choice	AH120	100 - 250	0.05 - 0.12
		150 - 250 HB	Wear resistance	T1215	150 - 300	0.05 - 0.18
	Aluminum alloys Si < 13%	-	First choice	KS05F	300 - 1500	0.05 - 0.32
		-	First choice	KS05F	100 - 200	0.05 - 0.32
S	Titanium alloys Ti-6Al-4V, etc.	- 40 HRC	First choice	AH3225	20 - 60	0.04 - 0.15
	Superalloys Inconel718, etc.	- 40 HRC	First choice	AH120	20 - 40	0.04 - 0.15
H	Hardened steel	SKD11 / X40CrMoV5-1, etc.	First choice	AH120	50 - 150	0.04 - 0.07
		SKD11 / X153CrMoV12, etc.	First choice	AH120	40 - 70	0.04 - 0.07



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