WIDIA

VariMill™ Chip Splitters

DYNAMIC MILLING | RAMPING |
HELICAL INTERPOLATION | SIDE MILLING

2023 METRIC

HANITA™

DYNAMIC | EFFICIENT | STEADY

THE VARIMILL™ CHIP SPLITTERS SERIES OF END MILLS DELIVERS EXCELLENT CHIP CONTROL ALLOWING THE TOOL TO RUN IN LONGER AXIAL DEPTH OF CUTS WHILE PRODUCTIVELY DIVING INTO DEEP POCKETS IN STEEL, STAINLESS STEEL AND HIGH-TEMPERATURE ALLOYS APPLICATIONS.

HANITA™

DYNAMIC CHIP CONTROL

WIDIA

VariMill™ Chip Splitters

High-Performance Solid End Milling

Materials

P M S

Applications

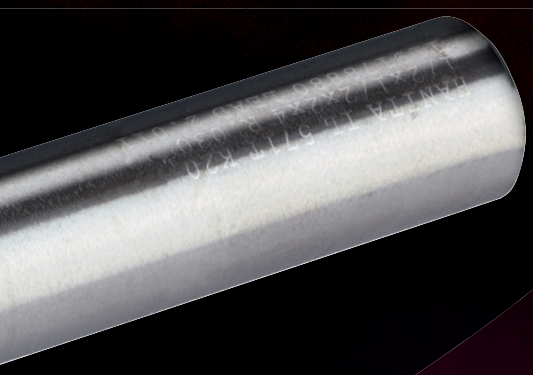
- Trochoidal Milling
- Helical Interpolation
- Side Milling/ Shoulder Milling
- Ramping
- Flute Configuration: 5
- Flute Configuration: 7

WP15PE AND WS15PE GRADES

5- and 7-flute solid carbide end mill.

Diameter range: 8–20mm

WIDIA



Built-in features to enable chip evacuation when machining small pockets at 5 x D maximum depth of cut

Chip Splitters to break chips apart into small segments for easier evacuation

HANITA™

SOLID END MILLING

VariMill™ Chip Splitters

Solid Carbide End Mills

WIDIA

VariMill Chip Splitters • Catalog Numbering System

Each character in our catalog number signifies a specific trait of that product.
Use the following key columns and corresponding images to easily identify which attributes apply.

570TM12006RJT

57	0	T	M	120	0	6	R	J	T
Platform	Neck and Cutting Length	Shape/ Application	UOM	Cutting Diameter	Overall Length	Shank Size	Corner Style	Corner Size	Shank Style
57 = VariMill 5 Flute 77 = VariMill 7 Flute	0 = No Neck and Regular Cutting Length (approx 2 x D) 1 = No Neck – Long Cutting Length (approx 3 x D) 2 = No Neck – Longer Cutting Length (approx 5 x D) 3 = No Neck – Extended Cutting Length (approx 7 x D)	T = Specific for Trochoidal and Dynamic Milling	M = Metric E = Inch	010 = 1,00mm 015 = 1,50mm 020 = 2,00mm 025 = 2,50mm 030 = 3,00mm 035 = 3,50mm 040 = 4,00mm 045 = 4,50mm 050 = 5,00mm 060 = 6,00mm 070 = 7,00mm 080 = 8,00mm 090 = 9,00mm 100 = 10,00mm 120 = 12,00mm 160 = 16,00mm 180 = 18,00mm 200 = 20,00mm 250 = 25,00mm	0 = Regular 1 = Extended 2 = Long 3 = Extra Long 4 = Stub	0 = 3,00mm 1 = 4,00mm 2 = 5,00mm 3 = 6,00mm 4 = 8,00mm 5 = 10,00mm 6 = 12,00mm 7 = 14,00mm 8 = 16,00mm 9 = 20,00mm A = 25,00mm	S = Sharp R = Radius C = Chamfer G = Chamfer End Mill F = Concave Radius	Z = Sharp A = 0,20mm Y = 0,25mm E = 0,50mm G = 0,75mm J = 1,00mm H = 1,50mm K = 2,00mm M = 2,50mm P = 3,00mm Q = 4,00mm R = 5,00mm D = 6,00mm X = Special	T = Cylindrical

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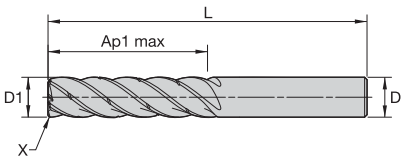
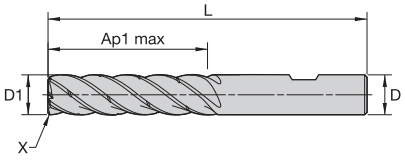
VariMill™ Chip Splitters • Radiused • 5 Flutes • 3 x D • Plain Shank • Metric



WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073625	571TM10015RXT	10,0	10	32,00	80	0,30	5
7073626	571TM12016RXT	12,0	12	40,00	100	0,30	5
7073627	571TM16018RET	16,0	16	50,00	110	0,50	5

VariMill Chip Splitters • Radiused • 5 Flutes • 3 x D • Weldon® Shank • Metric



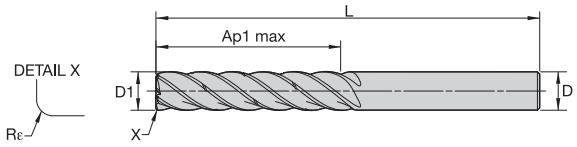
WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073621	571TM10015RXW	10,0	10	32,00	80	0,30	5
7073622	571TM12016RXW	12,0	12	40,00	100	0,30	5
7073623	571TM16018REW	16,0	16	50,00	110	0,50	5
7073624	571TM20019REW	20,0	20	60,00	125	0,50	5

VariMill™ Chip Splitters

Solid Carbide End Mills

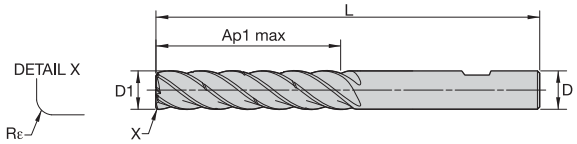
VariMill™ Chip Splitters • Radiused • 5 Flutes • 5 x D • Plain Shank • Metric



WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073634	572TM10015RXT	10,0	10	52,00	100	0,30	5
7073635	572TM12016RXT	12,0	12	62,00	125	0,30	5
7073636	572TM16018RET	16,0	16	81,00	141	0,50	5
7073637	572TM20019RET	20,0	20	105,00	170	0,50	5

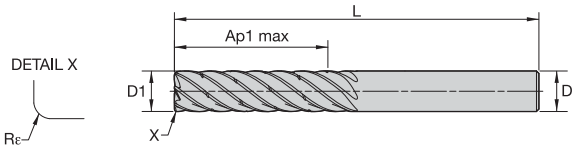
VariMill Chip Splitters • Radiused • 5 Flutes • 5 x D • Weldon® Shank • Metric



WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073628	572TM08014RXW	8,0	8	42,00	87	0,30	5
7073629	572TM10015RXW	10,0	10	52,00	100	0,30	5
7073630	572TM12016RXW	12,0	12	62,00	125	0,30	5
7073631	572TM16018REW	16,0	16	81,00	141	0,50	5
7073632	572TM20019REW	20,0	20	105,00	170	0,50	5

VariMill™ Chip Splitters • Radiused • 7 Flutes • 3 x D • Plain Shank • Metric



WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073698	771TM10015RXT	10,0	10	32,00	80	0,30	7
7073699	771TM12016RXT	12,0	12	40,00	100	0,30	7
7073700	771TM16018RET	16,0	16	50,00	110	0,50	7

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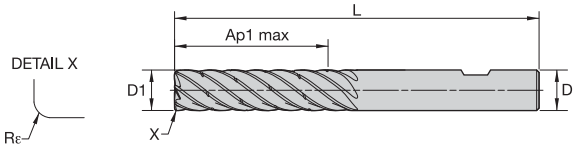

WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073695	771TM10015RXW	10,0	10	32,00	80	0,30	7
7073696	771TM12016RXW	12,0	12	40,00	100	0,30	7
7073697	771TM16018REW	16,0	16	50,00	110	0,50	7

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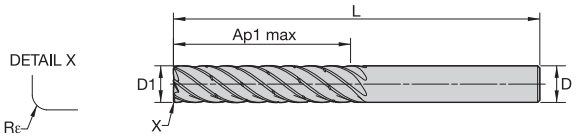

WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073715	772TM10015RXT	10,0	10	52,00	100	0,30	7
7073716	772TM12016RXT	12,0	12	62,00	125	0,30	7
7073717	772TM16018RET	16,0	16	81,00	141	0,50	7

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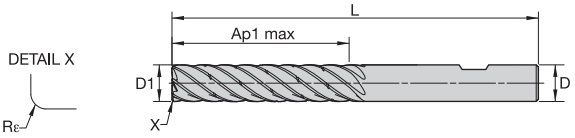

WP15PE

order #	catalogue #	D1	D	Ap1 max	L	Rε	ZU
7073711	772TM10015RXW	10,0	10	52,00	100	0,30	7
7073712	772TM12016RXW	12,0	12	62,00	125	0,30	7
7073713	772TM16018REW	16,0	16	81,00	141	0,50	7
7073714	772TM20019REW	20,0	20	105,00	170	0,50	7

VariMill™ Chip Splitters • 5 Flute • Application Data • Metric

Material Group												
		Side Milling		WP15PE			Recommended feed per tooth (fz=mm/th) for side milling at ae = 10% of D1					
				Cutting Speed — Vc m/min			D1 — Diameter					
		ap	ae	Min	Start	Max	mm	8,0	10,0	12,0	16,0	20,0
P	0	Ap max	0,1 x D1	270	315	360	fz	0,072	0,086	0,099	0,121	0,137
	1	Ap max	0,1 x D1	270	315	360	fz	0,072	0,086	0,099	0,121	0,137
	2	Ap max	0,1 x D1	252	297	342	fz	0,072	0,086	0,099	0,121	0,137
	3	Ap max	0,1 x D1	216	252	288	fz	0,060	0,073	0,084	0,105	0,121
	4	Ap max	0,1 x D1	162	216	270	fz	0,054	0,065	0,075	0,092	0,106
	5	Ap max	0,1 x D1	108	144	180	fz	0,048	0,058	0,067	0,084	0,097
	6	Ap max	0,1 x D1	90	113	135	fz	0,040	0,048	0,056	0,068	0,078
M	1	Ap max	0,1 x D1	162	185	207	fz	0,060	0,073	0,084	0,105	0,121
	2	Ap max	0,1 x D1	108	126	144	fz	0,048	0,058	0,067	0,084	0,097
	3	Ap max	0,1 x D1	108	117	126	fz	0,040	0,048	0,056	0,068	0,078
K	1	Ap max	0,1 x D1	216	243	270	fz	0,072	0,086	0,099	0,121	0,137
	2	Ap max	0,1 x D1	198	225	252	fz	0,060	0,073	0,084	0,105	0,121
	3	Ap max	0,1 x D1	198	216	234	fz	0,048	0,058	0,067	0,084	0,097
S	1	Ap max	0,1 x D1	90	126	162	fz	0,060	0,073	0,084	0,105	0,121
	2	Ap max	0,1 x D1	45	59	72	fz	0,048	0,058	0,067	0,084	0,097
	3	Ap max	0,1 x D1	45	59	72	fz	0,032	0,038	0,045	0,056	0,065
	4	Ap max	0,1 x D1	90	99	108	fz	0,044	0,053	0,062	0,077	0,089
H	1	Ap max	0,1 x D1	144	198	252	fz	0,054	0,065	0,075	0,092	0,106
	2	Ap max	0,1 x D1	126	171	216	fz	0,040	0,048	0,056	0,068	0,078

Material Group												
		Side Milling		WP15PE			Recommended feed per tooth (fz=mm/th) for side milling at ae = 5% of D1					
				Cutting Speed — Vc m/min			D1 — Diameter					
		ap	ae	Min	Start	Max	mm	8,0	10,0	12,0	16,0	20,0
P	0	Ap max	0,05 x D1	300	350	400	fz	0,096	0,115	0,132	0,161	0,182
	1	Ap max	0,05 x D1	300	350	400	fz	0,096	0,115	0,132	0,161	0,182
	2	Ap max	0,05 x D1	280	330	380	fz	0,096	0,115	0,132	0,161	0,182
	3	Ap max	0,05 x D1	240	280	320	fz	0,080	0,097	0,112	0,140	0,162
	4	Ap max	0,05 x D1	180	240	300	fz	0,072	0,086	0,100	0,123	0,141
	5	Ap max	0,05 x D1	120	160	200	fz	0,064	0,077	0,090	0,112	0,129
	6	Ap max	0,05 x D1	100	125	150	fz	0,054	0,065	0,074	0,091	0,104
M	1	Ap max	0,05 x D1	180	205	230	fz	0,080	0,097	0,112	0,140	0,162
	2	Ap max	0,05 x D1	120	140	160	fz	0,064	0,077	0,090	0,112	0,129
	3	Ap max	0,05 x D1	120	130	140	fz	0,054	0,065	0,074	0,091	0,104
K	1	Ap max	0,05 x D1	240	270	300	fz	0,096	0,115	0,132	0,161	0,182
	2	Ap max	0,05 x D1	220	250	280	fz	0,080	0,097	0,112	0,140	0,162
	3	Ap max	0,05 x D1	220	240	260	fz	0,064	0,077	0,090	0,112	0,129
S	1	Ap max	0,05 x D1	100	140	180	fz	0,080	0,097	0,112	0,140	0,162
	2	Ap max	0,05 x D1	50	65	80	fz	0,064	0,077	0,090	0,112	0,129
	3	Ap max	0,05 x D1	50	65	80	fz	0,042	0,051	0,060	0,074	0,086
	4	Ap max	0,05 x D1	100	110	120	fz	0,059	0,071	0,083	0,103	0,119
H	1	Ap max	0,05 x D1	160	220	280	fz	0,072	0,086	0,100	0,123	0,141
	2	Ap max	0,05 x D1	140	190	240	fz	0,054	0,065	0,074	0,091	0,104

VariMill™ Chip Splitters

Solid Carbide End Mills

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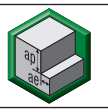

Material Group		Side Milling		WP15PE			Recommended feed per tooth (fz=mm/th) for side milling at ae = 2% of D1					
				Cutting Speed — Vc m/min			D1 — Diameter					
		ap	ae	Min	Start	Max	mm	8,0	10,0	12,0	16,0	20,0
P	0	Ap max	0,2 x D1	300	350	400	fz	0,135	0,162	0,186	0,227	0,257
	1	Ap max	0,2 x D1	300	350	400	fz	0,135	0,162	0,186	0,227	0,257
	2	Ap max	0,2 x D1	280	330	380	fz	0,135	0,162	0,186	0,227	0,257
	3	Ap max	0,2 x D1	240	280	320	fz	0,113	0,136	0,158	0,196	0,227
	4	Ap max	0,2 x D1	180	240	300	fz	0,101	0,122	0,140	0,173	0,198
	5	Ap max	0,2 x D1	120	160	200	fz	0,090	0,109	0,126	0,157	0,182
	6	Ap max	0,2 x D1	100	125	150	fz	0,076	0,091	0,105	0,128	0,146
M	1	Ap max	0,2 x D1	180	205	230	fz	0,113	0,136	0,158	0,196	0,227
	2	Ap max	0,2 x D1	120	140	160	fz	0,090	0,109	0,126	0,157	0,182
	3	Ap max	0,2 x D1	120	130	140	fz	0,076	0,091	0,105	0,128	0,146
K	1	Ap max	0,2 x D1	240	270	300	fz	0,135	0,162	0,186	0,227	0,257
	2	Ap max	0,2 x D1	220	250	280	fz	0,113	0,136	0,158	0,196	0,227
	3	Ap max	0,2 x D1	220	240	260	fz	0,090	0,109	0,126	0,157	0,182
S	1	Ap max	0,2 x D1	100	140	180	fz	0,113	0,136	0,158	0,196	0,227
	2	Ap max	0,2 x D1	50	65	80	fz	0,090	0,109	0,126	0,157	0,182
	3	Ap max	0,2 x D1	50	65	80	fz	0,059	0,072	0,084	0,104	0,122
	4	Ap max	0,2 x D1	100	110	120	fz	0,083	0,100	0,116	0,144	0,167
H	1	Ap max	0,2 x D1	160	220	280	fz	0,101	0,122	0,140	0,173	0,198
	2	Ap max	0,2 x D1	140	190	240	fz	0,076	0,091	0,105	0,128	0,146

VariMill Chip Splitters • 7 Flute • Application Data • Metric

Material Group		Side Milling		WS15PE			Recommended feed per tooth (fz=mm/th) for side milling at ae = 10% of D1				
				Cutting Speed — Vc m/min			D1 — Diameter				
		ap	ae	Min	Start	Max	mm	10,0	12,0	16,0	20,0
P	0	Ap max	0,1 x D1	270	315	360	fz	0,094	0,108	0,131	0,148
	1	Ap max	0,1 x D1	270	315	360	fz	0,094	0,108	0,131	0,148
	2	Ap max	0,1 x D1	252	297	342	fz	0,094	0,108	0,131	0,148
	3	Ap max	0,1 x D1	216	252	288	fz	0,079	0,091	0,113	0,131
	4	Ap max	0,1 x D1	162	216	270	fz	0,070	0,081	0,100	0,114
	5	Ap max	0,1 x D1	108	144	180	fz	0,063	0,073	0,091	0,105
	6	Ap max	0,1 x D1	90	113	135	fz	0,053	0,061	0,074	0,084
M	1	Ap max	0,1 x D1	162	185	207	fz	0,079	0,091	0,113	0,131
	2	Ap max	0,1 x D1	108	126	144	fz	0,063	0,073	0,091	0,105
	3	Ap max	0,1 x D1	108	117	126	fz	0,053	0,061	0,074	0,084
K	1	Ap max	0,1 x D1	216	243	270	fz	0,094	0,108	0,131	0,148
	2	Ap max	0,1 x D1	198	225	252	fz	0,079	0,091	0,113	0,131
	3	Ap max	0,1 x D1	198	216	234	fz	0,063	0,073	0,091	0,105
S	1	Ap max	0,1 x D1	90	126	162	fz	0,079	0,091	0,113	0,131
	2	Ap max	0,1 x D1	45	59	72	fz	0,063	0,073	0,091	0,105
	3	Ap max	0,1 x D1	45	59	72	fz	0,042	0,048	0,060	0,070
	4	Ap max	0,1 x D1	90	99	108	fz	0,058	0,067	0,083	0,097
H	1	Ap max	0,1 x D1	144	198	252	fz	0,070	0,081	0,100	0,114
	2	Ap max	0,1 x D1	126	171	216	fz	0,053	0,061	0,074	0,084

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Material Group		Side Milling		WS15PE Cutting Speed — Vc m/min			Recommended feed per tooth (fz=mm/th) for side milling at ae = 5% of D1				
							D1 — Diameter				
		ap	ae	Min	Start	Max	mm	10,0	12,0	16,0	20,0
P	0	Ap max	0,05 x D1	300	350	400	fz	0,115	0,132	0,161	0,182
	1	Ap max	0,05 x D1	300	350	400	fz	0,115	0,132	0,161	0,182
	2	Ap max	0,05 x D1	280	330	380	fz	0,115	0,132	0,161	0,182
	3	Ap max	0,05 x D1	240	280	320	fz	0,097	0,112	0,140	0,162
	4	Ap max	0,05 x D1	180	240	300	fz	0,086	0,100	0,123	0,141
	5	Ap max	0,05 x D1	120	160	200	fz	0,077	0,090	0,112	0,129
	6	Ap max	0,05 x D1	100	125	150	fz	0,065	0,074	0,091	0,104
M	1	Ap max	0,05 x D1	180	205	230	fz	0,097	0,112	0,140	0,162
	2	Ap max	0,05 x D1	120	140	160	fz	0,077	0,090	0,112	0,129
	3	Ap max	0,05 x D1	120	130	140	fz	0,065	0,074	0,091	0,104
K	1	Ap max	0,05 x D1	240	270	300	fz	0,115	0,132	0,161	0,182
	2	Ap max	0,05 x D1	220	250	280	fz	0,097	0,112	0,140	0,162
	3	Ap max	0,05 x D1	220	240	260	fz	0,077	0,090	0,112	0,129
S	1	Ap max	0,05 x D1	100	140	180	fz	0,097	0,112	0,140	0,162
	2	Ap max	0,05 x D1	50	65	80	fz	0,077	0,090	0,112	0,129
	3	Ap max	0,05 x D1	50	65	80	fz	0,051	0,060	0,074	0,086
	4	Ap max	0,05 x D1	100	110	120	fz	0,071	0,083	0,103	0,119
H	1	Ap max	0,05 x D1	160	220	280	fz	0,086	0,100	0,123	0,141
	2	Ap max	0,05 x D1	140	190	240	fz	0,065	0,074	0,091	0,104

Material Group		Side Milling		WS15PE Cutting Speed — Vc m/min			Recommended feed per tooth (fz=mm/th) for side milling at ae = 2% of D1				
							D1 — Diameter				
		ap	ae	Min	Start	Max	mm	10,0	12,0	16,0	20,0
P	0	Ap max	0,02 x D1	308	359	410	fz	0,173	0,199	0,242	0,274
	1	Ap max	0,02 x D1	308	359	410	fz	0,173	0,199	0,242	0,274
	2	Ap max	0,02 x D1	287	338	390	fz	0,173	0,199	0,242	0,274
	3	Ap max	0,02 x D1	246	287	328	fz	0,145	0,168	0,209	0,242
	4	Ap max	0,02 x D1	185	246	308	fz	0,130	0,150	0,184	0,211
	5	Ap max	0,02 x D1	123	164	205	fz	0,116	0,135	0,167	0,194
	6	Ap max	0,02 x D1	103	128	154	fz	0,097	0,112	0,137	0,156
M	1	Ap max	0,02 x D1	185	210	236	fz	0,145	0,168	0,209	0,242
	2	Ap max	0,02 x D1	123	144	164	fz	0,116	0,135	0,167	0,194
	3	Ap max	0,02 x D1	123	133	144	fz	0,097	0,112	0,137	0,156
K	1	Ap max	0,02 x D1	246	277	308	fz	0,173	0,199	0,242	0,274
	2	Ap max	0,02 x D1	226	256	287	fz	0,145	0,168	0,209	0,242
	3	Ap max	0,02 x D1	226	246	267	fz	0,116	0,135	0,167	0,194
S	1	Ap max	0,02 x D1	103	144	185	fz	0,145	0,168	0,209	0,242
	2	Ap max	0,02 x D1	51	67	82	fz	0,116	0,135	0,167	0,194
	3	Ap max	0,02 x D1	51	67	82	fz	0,077	0,089	0,111	0,130
	4	Ap max	0,02 x D1	103	113	123	fz	0,107	0,124	0,154	0,178
H	1	Ap max	0,02 x D1	164	226	287	fz	0,130	0,150	0,184	0,211
	2	Ap max	0,02 x D1	144	195	246	fz	0,097	0,112	0,137	0,156

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Notes

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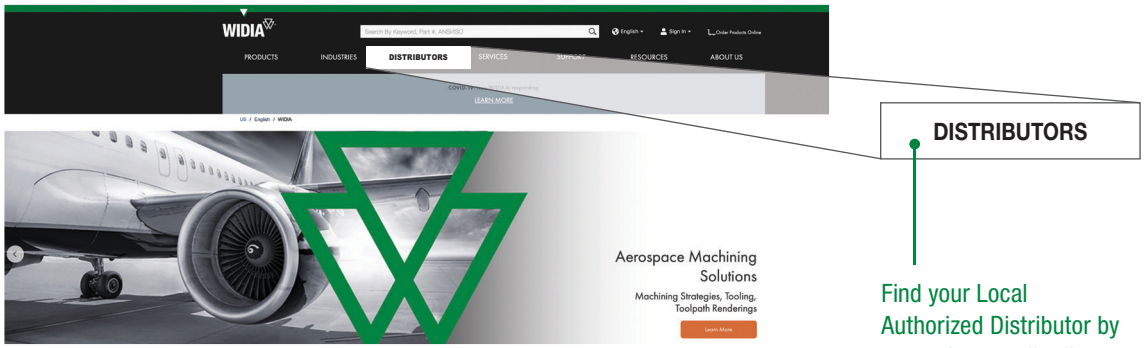
Hanita brand solid end milling solutions are available through WIDIA authorized distributor partners. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of WIDIA to work for you — in your industry, in your region, and for your business.



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IMPORTANT SAFETY INSTRUCTIONS: READ BEFORE USING THE TOOLS IN THIS CATALOG

METALCUTTING SAFETY

Projectile and Fragmentation Hazards

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by WIDIA and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalogue and recommendations on machining practices may not apply to your particular operation.

For more information, consult the WIDIA Metalcutting Safety booklet, available free from WIDIA at +1 724 539 5747 or fax +1 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at +1 724 539 5066 or fax +1 724 539 5372.

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