VN 16

CARBIDE INSERTS

VNMG

356

CER AND CBN INSERTS

VNGA CER

359

VNGA CBN

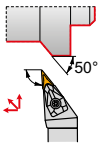
359

MATCH THE RIGHT SIZE (example)	
Insert	**Tool Holder**
VNMG 160404E-SF	DVJNL 2020 K 16

ISO TURNING – EXTERNAL

DVJN(RL) EXT

93° | VN.. | 16

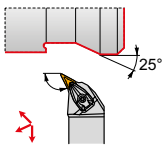


20×20 / 32×25

360 | 356 – 359

DVPN(RL) EXT

62°30′ | VN.. | 16

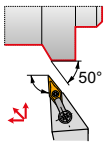


20×20 / 32×25

361 | 356 – 359

MVJN(RL) EXT

93° | VN.. | 16

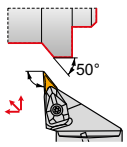


20×20 / 32×25

362 | 356 – 359

C.-DVJN(RL) EXT

93° | VN.. | 16



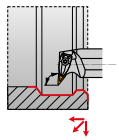
C4 / C6

363 | 356 – 359

ISO TURNING – INTERNAL

DVUN(RL) INT

VN.. | 16



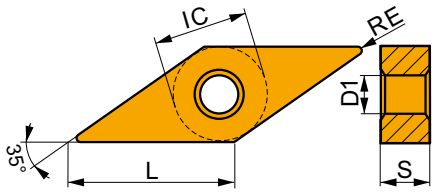
50

364 | 356 – 359

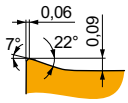
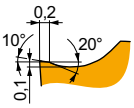
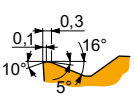
VNMG

PRAMET

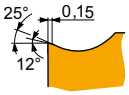
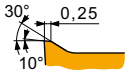
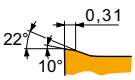
	IC [mm]	D1 [mm]	L [mm]	S [mm]
1604	9.525	3.81	16.60	4.76



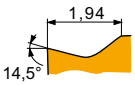
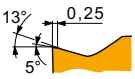
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product		RE [mm]	P vc [m/min]	P f [mm/rev]	P ap [mm]	M vc [m/min]	M f [mm/rev]	M ap [mm]	K vc [m/min]	K f [mm/rev]	K ap [mm]	N vc [m/min]	N f [mm/rev]	N ap [mm]	S vc [m/min]	S f [mm/rev]	S ap [mm]	H vc [m/min]	H f [mm/rev]	H ap [mm]
																				
			FF geometry with highly positive design for fine-finish machining and continuous to slightly interrupted cuts.																	
VNMG 160404E-FF	**T7325**	0.4	165	0.12	1.0	125	0.11	1.0	–	–	–	–	–	–	–	–	–	–	–	–
	T8315	0.4	150	0.12	1.0	90	0.11	1.0	140	0.12	1.0	–	–	–	–	–	–	–	–	–
	T8330	0.4	140	0.12	1.0	80	0.11	1.0	130	0.12	1.0	–	–	–	–	–	–	–	–	–
	T8430	0.4	175	0.12	1.0	95	0.11	1.0	140	0.12	1.0	–	–	–	–	–	–	–	–	–
																				
			FM geometry with positive design for finish to semi-rough machining and continuous to slightly interrupted cuts.																	
VNMG 160404E-FM	**T7325**	0.4	140	0.20	1.2	105	0.18	1.2	–	–	–	–	–	–	45	0.20	1.0	–	–	–
	T8330	0.4	120	0.20	1.2	70	0.18	1.2	110	0.20	1.2	–	–	–	30	0.14	1.0	–	–	–
	T8430	0.4	135	0.20	1.2	75	0.18	1.2	110	0.20	1.2	–	–	–	25	0.14	1.0	–	–	–
	T9310	0.4	210	0.20	1.2	–	–	–	195	0.20	1.2	–	–	–	–	–	–	–	–	–
	T9315	0.4	190	0.20	1.2	–	–	–	180	0.20	1.2	–	–	–	–	–	–	–	–	–
	T9325	0.4	170	0.20	1.2	100	0.18	1.2	160	0.20	1.2	–	–	–	35	0.20	1.0	–	–	–
VNMG 160408E-FM	**T7325**	0.8	160	0.20	1.4	120	0.18	1.4	–	–	–	–	–	–	50	0.16	1.1	–	–	–
	T8330	0.8	145	0.20	1.4	85	0.18	1.4	135	0.20	1.4	–	–	–	35	0.16	1.1	–	–	–
	T8430	0.8	165	0.20	1.4	90	0.18	1.4	135	0.20	1.4	–	–	–	35	0.16	1.1	–	–	–
	T9310	0.8	245	0.20	1.4	–	–	–	230	0.20	1.4	–	–	–	–	–	–	–	–	–
	T9315	0.8	220	0.20	1.4	–	–	–	205	0.20	1.4	–	–	–	–	–	–	–	–	–
	T9325	0.8	200	0.20	1.4	120	0.18	1.4	190	0.20	1.4	–	–	–	45	0.16	1.1	–	–	–
VNMG 160412E-FM	**T7325**	1.2	165	0.22	1.4	125	0.20	1.4	–	–	–	–	–	–	50	0.18	1.1	–	–	–
	T8330	1.2	150	0.22	1.4	90	0.20	1.4	140	0.22	1.4	–	–	–	35	0.18	1.1	–	–	–
	T8430	1.2	165	0.22	1.4	90	0.20	1.4	135	0.22	1.4	–	–	–	35	0.18	1.1	–	–	–
	T9315	1.2	225	0.22	1.4	–	–	–	210	0.22	1.4	–	–	–	–	–	–	–	–	–
	T9325	1.2	200	0.22	1.4	120	0.20	1.4	190	0.22	1.4	–	–	–	45	0.18	1.1	–	–	–
																				
			M geometry for finish to semi-rough machining and continuous to interrupted cuts.																	
VNMG 160404E-M	**T5315**	0.4	180	0.20	1.2	–	–	–	170	0.20	1.2	–	–	–	–	–	–	35	0.15	1.0
	T9315	0.4	170	0.20	1.2	–	–	–	160	0.20	1.2	–	–	–	–	–	–	30	0.15	1.0
	T9325	0.4	155	0.20	1.2	–	–	–	145	0.20	1.2	–	–	–	–	–	–	–	–	–
	T9335	0.4	130	0.20	1.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VNMG 160408E-M	**T5305**	0.8	205	0.30	1.4	–	–	–	190	0.30	1.4	–	–	–	–	–	–	40	0.15	1.0
	T5315	0.8	185	0.30	1.4	–	–	–	175	0.30	1.4	–	–	–	–	–	–	35	0.15	1.0
	T9310	0.8	185	0.30	1.4	–	–	–	175	0.30	1.4	–	–	–	–	–	–	35	0.15	1.0
	T9315	0.8	170	0.30	1.4	–	–	–	160	0.30	1.4	–	–	–	–	–	–	30	0.15	1.0
	T9325	0.8	150	0.30	1.4	–	–	–	140	0.30	1.4	–	–	–	–	–	–	–	–	–
	T9335	0.8	130	0.30	1.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VNMG 160412E-M	**T9325**	1.2	140	0.40	1.4	–	–	–	130	0.40	1.4	–	–	–	–	–	–	–	–	–

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

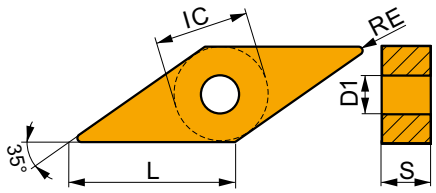
Product		RE	P			M			K			N			S			H		
			vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]
																				
			NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.																	
VNMG 160404E-NF	**T6310**	0.4	140	0.12	1.2	100	0.11	1.2	110	0.12	1.2	420	0.14	1.2	40	0.11	1.0	–	–	–
	T7325	0.4	140	0.18	1.2	105	0.16	1.2	–	–	–	–	–	–	45	0.16	1.0	–	–	–
	T7335	0.4	140	0.18	1.2	105	0.16	1.2	–	–	–	–	–	–	45	0.16	1.0	–	–	–
	T8315	0.4	150	0.12	1.2	90	0.11	1.2	140	0.12	1.2	450	0.14	1.2	35	0.11	1.0	–	–	–
	T8330	0.4	140	0.12	1.2	80	0.11	1.2	130	0.12	1.2	420	0.14	1.2	35	0.11	1.0	–	–	–
	T8430	0.4	175	0.12	1.2	95	0.11	1.2	140	0.12	1.2	480	0.14	1.2	35	0.11	1.0	–	–	–
	T9315	0.4	235	0.12	1.2	–	–	–	220	0.12	1.2	–	–	–	–	–	–	–	–	–
	T9325	0.4	180	0.18	1.2	105	0.16	1.2	170	0.18	1.2	–	–	–	40	0.16	1.0	–	–	–
VNMG 160408E-NF	**T6310**	0.8	145	0.17	1.4	100	0.15	1.4	115	0.17	1.4	435	0.20	1.4	40	0.14	1.1	–	–	–
	T7325	0.8	165	0.18	1.4	125	0.16	1.4	–	–	–	–	–	–	50	0.16	1.1	–	–	–
	T7335	0.8	160	0.18	1.4	120	0.16	1.4	–	–	–	–	–	–	50	0.16	1.1	–	–	–
	T8315	0.8	160	0.17	1.4	95	0.15	1.4	150	0.17	1.4	480	0.20	1.4	40	0.14	1.1	–	–	–
	T8330	0.8	150	0.17	1.4	90	0.15	1.4	140	0.17	1.4	450	0.20	1.4	35	0.14	1.1	–	–	–
	T8430	0.8	175	0.17	1.4	95	0.15	1.4	140	0.17	1.4	480	0.20	1.4	35	0.14	1.1	–	–	–
	T9315	0.8	240	0.17	1.4	–	–	–	225	0.17	1.4	–	–	–	–	–	–	–	–	–
	T9325	0.8	210	0.18	1.4	125	0.16	1.4	195	0.18	1.4	–	–	–	45	0.16	1.1	–	–	–
																				
			NM geometry with highly positive design for fine-finish, medium and rough machining, with continuous cuts.																	
VNMG 160404E-NM	**T7325**	0.4	145	0.20	1.2	110	0.18	1.2	–	–	–	–	–	–	45	0.20	1.0	–	–	–
	T7335	0.4	140	0.20	1.2	105	0.18	1.2	–	–	–	–	–	–	45	0.20	1.0	–	–	–
	T8315	0.4	135	0.20	1.2	80	0.18	1.2	–	–	–	405	0.24	1.2	30	0.20	1.0	–	–	–
	T8330	0.4	125	0.20	1.2	75	0.18	1.2	–	–	–	375	0.24	1.2	30	0.20	1.0	–	–	–
	T8430	0.4	145	0.20	1.2	80	0.18	1.2	–	–	–	405	0.24	1.2	30	0.20	1.0	–	–	–
	T9325	0.4	180	0.20	1.2	105	0.18	1.2	–	–	–	–	–	–	40	0.20	1.0	–	–	–
VNMG 160408E-NM	**T7325**	0.8	160	0.25	1.4	120	0.23	1.4	–	–	–	–	–	–	50	0.20	1.1	–	–	–
	T7335	0.8	155	0.25	1.4	120	0.23	1.4	–	–	–	–	–	–	50	0.20	1.1	–	–	–
	T8315	0.8	145	0.25	1.4	85	0.23	1.4	–	–	–	435	0.30	1.4	35	0.20	1.1	–	–	–
	T8330	0.8	140	0.25	1.4	80	0.23	1.4	–	–	–	420	0.30	1.4	35	0.20	1.1	–	–	–
	T8430	0.8	155	0.25	1.4	85	0.23	1.4	–	–	–	435	0.30	1.4	30	0.20	1.1	–	–	–
	T9325	0.8	190	0.25	1.4	110	0.23	1.4	–	–	–	–	–	–	40	0.20	1.1	–	–	–
																				
			NMR geometry with positive design for medium to rough machining, and continuous cuts.																	
VNMG 160404E-NMR	**T7325**	0.4	125	0.20	1.2	95	0.18	1.2	–	–	–	–	–	–	40	0.18	1.0	–	–	–
	T7335	0.4	120	0.20	1.2	90	0.18	1.2	–	–	–	–	–	–	35	0.18	1.0	–	–	–
	T9325	0.4	155	0.20	1.2	90	0.18	1.2	–	–	–	–	–	–	30	0.18	1.0	–	–	–
VNMG 160408E-NMR	**T7325**	0.8	130	0.30	1.4	100	0.27	1.4	–	–	–	–	–	–	40	0.24	1.1	–	–	–
	T7335	0.8	125	0.30	1.4	95	0.27	1.4	–	–	–	–	–	–	40	0.24	1.1	–	–	–
	T8430	0.8	125	0.30	1.4	65	0.27	1.4	–	–	–	–	–	–	25	0.24	1.1	–	–	–
	T9315	0.8	170	0.30	1.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	T9325	0.8	150	0.30	1.4	90	0.27	1.4	–	–	–	–	–	–	30	0.24	1.1	–	–	–
VNMG 160412E-NMR	**T7325**	1.2	140	0.30	1.4	105	0.27	1.4	–	–	–	–	–	–	45	0.24	1.1	–	–	–
	T8330	1.2	120	0.30	1.4	70	0.27	1.4	–	–	–	–	–	–	30	0.24	1.1	–	–	–
	T8430	1.2	130	0.30	1.4	70	0.27	1.4	–	–	–	–	–	–	25	0.24	1.1	–	–	–
	T9325	1.2	160	0.30	1.4	95	0.27	1.4	–	–	–	–	–	–	35	0.24	1.1	–	–	–

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

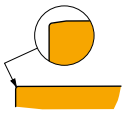
Product		RE	P			M			K			N			S			H		
			vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]	vc [m/min]	f [mm/rev]	ap [mm]
			SF geometry with positive design for fine-finish machining and for machining thin walls, with continuous cuts.																	
VNMG 160404E-SF	**T6310**	0.4	■ 135	0.12	1.2	■ 95	0.11	1.2	■ 105	0.12	1.2	◪ 405	0.14	1.2	■ 40	0.11	1.0	■ 25	0.15	1.0
	T7325	0.4	◪ 140	0.17	1.2	■ 105	0.15	1.2	–	–	–	–	–	–	■ 45	0.15	1.0	–	–	–
	T8315	0.4	◪ 140	0.12	1.2	■ 80	0.11	1.2	■ 130	0.12	1.2	◪ 420	0.14	1.2	◪ 35	0.11	1.0	■ 25	0.15	1.0
	T8330	0.4	■ 135	0.12	1.2	■ 80	0.11	1.2	■ 125	0.12	1.2	◪ 405	0.14	1.2	◪ 30	0.11	1.0	◪ 25	0.15	1.0
	T8430	0.4	■ 165	0.12	1.2	■ 90	0.11	1.2	◪ 135	0.12	1.2	◪ 450	0.14	1.2	◪ 35	0.11	1.0	◪ 25	0.15	1.0
	T9315	0.4	■ 225	0.12	1.2	–	–	–	◪ 210	0.12	1.2	–	–	–	–	–	–	◪ 45	0.15	1.0
	T9325	0.4	■ 175	0.17	1.2	■ 105	0.15	1.2	◪ 165	0.17	1.2	–	–	–	◪ 35	0.15	1.0	–	–	–
VNMG 160408E-SF	**T6310**	0.8	■ 140	0.17	1.4	■ 100	0.15	1.4	■ 110	0.17	1.4	◪ 420	0.20	1.4	■ 40	0.14	1.1	■ 25	0.15	1.0
	T8315	0.8	◪ 150	0.17	1.4	■ 90	0.15	1.4	■ 140	0.17	1.4	◪ 450	0.20	1.4	◪ 35	0.14	1.1	■ 30	0.15	1.0
	T8330	0.8	■ 145	0.17	1.4	■ 85	0.15	1.4	■ 135	0.17	1.4	◪ 435	0.20	1.4	◪ 35	0.14	1.1	◪ 25	0.15	1.0
	T8430	0.8	■ 165	0.17	1.4	■ 90	0.15	1.4	◪ 135	0.17	1.4	◪ 450	0.20	1.4	◪ 35	0.14	1.1	◪ 25	0.15	1.0
	T9315	0.8	■ 230	0.17	1.4	–	–	–	◪ 215	0.17	1.4	–	–	–	–	–	–	◪ 45	0.15	1.0
	T9325	0.8	■ 205	0.17	1.4	■ 120	0.15	1.4	◪ 190	0.17	1.4	–	–	–	◪ 45	0.15	1.1	–	–	–
VNMG 160412E-SF	**T6310**	1.2	■ 145	0.20	1.4	■ 100	0.18	1.4	■ 115	0.20	1.4	◪ 435	0.24	1.4	■ 40	0.16	1.1	■ 25	0.15	1.0
	T7325	1.2	◪ 165	0.20	1.4	■ 125	0.18	1.4	–	–	–	–	–	–	■ 50	0.16	1.1	–	–	–
			SM geometry with positive design for medium machining, and continuous to interrupted cuts.																	
VNMG 160404E-SM	**T6310**	0.4	■ 120	0.18	1.2	■ 85	0.16	1.2	■ 95	0.18	1.2	◪ 360	0.22	1.2	■ 35	0.16	1.0	◪ 20	0.15	1.0
	T7325	0.4	◪ 135	0.18	1.2	■ 105	0.16	1.2	–	–	–	–	–	–	■ 40	0.16	1.0	–	–	–
	T7335	0.4	◪ 135	0.18	1.2	■ 105	0.16	1.2	–	–	–	–	–	–	■ 40	0.16	1.0	–	–	–
	T8330	0.4	■ 120	0.18	1.2	■ 70	0.16	1.2	■ 110	0.18	1.2	◪ 360	0.22	1.2	◪ 30	0.16	1.0	◪ 20	0.15	1.0
	T8430	0.4	■ 135	0.18	1.2	■ 75	0.16	1.2	◪ 110	0.18	1.2	◪ 375	0.22	1.2	◪ 25	0.16	1.0	◪ 20	0.15	1.0
	T9315	0.4	■ 190	0.18	1.2	–	–	–	◪ 180	0.18	1.2	–	–	–	–	–	–	◪ 35	0.15	1.0
	T9325	0.4	■ 170	0.18	1.2	■ 100	0.16	1.2	◪ 160	0.18	1.2	–	–	–	◪ 35	0.16	1.0	–	–	–
VNMG 160408E-SM	**T6310**	0.8	■ 125	0.25	1.4	■ 90	0.23	1.4	■ 100	0.25	1.4	◪ 375	0.30	1.4	■ 35	0.20	1.1	◪ 25	0.15	1.0
	T7325	0.8	◪ 145	0.25	1.4	■ 110	0.23	1.4	–	–	–	–	–	–	■ 45	0.20	1.1	–	–	–
	T8330	0.8	■ 125	0.25	1.4	■ 75	0.23	1.4	■ 115	0.25	1.4	◪ 375	0.30	1.4	◪ 30	0.20	1.1	◪ 25	0.15	1.0
	T8430	0.8	■ 140	0.25	1.4	■ 75	0.23	1.4	◪ 115	0.25	1.4	◪ 390	0.30	1.4	◪ 30	0.20	1.1	◪ 20	0.15	1.0
	T9315	0.8	■ 195	0.25	1.4	–	–	–	◪ 185	0.25	1.4	–	–	–	–	–	–	◪ 35	0.15	1.0
	T9325	0.8	■ 170	0.25	1.4	■ 100	0.23	1.4	◪ 160	0.25	1.4	–	–	–	◪ 35	0.20	1.1	–	–	–
VNMG 160412E-SM	**T6310**	1.2	■ 125	0.30	1.4	■ 90	0.27	1.4	■ 100	0.30	1.4	◪ 375	0.36	1.4	■ 35	0.24	1.1	◪ 25	0.15	1.0

VNGA CER

	IC [mm]	D1 [mm]	L [mm]	S [mm]
1604	9.525	3.81	16.60	4.76

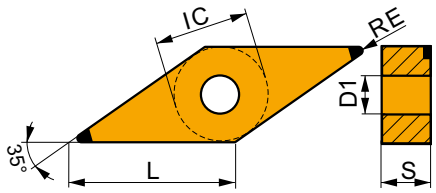


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

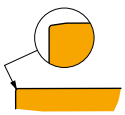
Product		RE [mm]	P vc [m/min]	P f [mm/rev]	P ap [mm]	M vc [m/min]	M f [mm/rev]	M ap [mm]	K vc [m/min]	K f [mm/rev]	K ap [mm]	N vc [m/min]	N f [mm/rev]	N ap [mm]	S vc [m/min]	S f [mm/rev]	S ap [mm]	H vc [m/min]	H f [mm/rev]	H ap [mm]
			HSC T																	
			For machining with high speeds and continuous cuts.																	
VNGA 160404 T01020	TC100	0.4	–	–	–	–	–	–	425	0.10	1.0	–	–	–	–	–	–	–	–	–
VNGA 160408 T01020	TC100	0.8	–	–	–	–	–	–	395	0.20	1.0	–	–	–	–	–	–	–	–	–

VNGA CBN

	IC [mm]	D1 [mm]	L [mm]	S [mm]
1604	9.525	3.81	16.00	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product		RE [mm]	P vc [m/min]	P f [mm/rev]	P ap [mm]	M vc [m/min]	M f [mm/rev]	M ap [mm]	K vc [m/min]	K f [mm/rev]	K ap [mm]	N vc [m/min]	N f [mm/rev]	N ap [mm]	S vc [m/min]	S f [mm/rev]	S ap [mm]	H vc [m/min]	H f [mm/rev]	H ap [mm]
			HSC S																	
			For finish machining and continuous cuts.																	
VNGA 160404S01020B	TB310	0.4	–	–	–	–	–	–	360	0.10	0.4	–	–	–	95	0.07	0.3	75	0.15	1.0
VNGA 160408S01020B	TB310	0.8	–	–	–	–	–	–	370	0.15	0.6	–	–	–	95	0.11	0.5	75	0.15	1.0