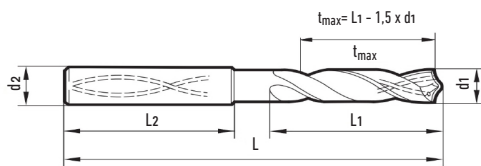


# Tvrdokovový vrták 166520

s vnitřním chlazením / 3xD

- úhel čela 140°
- tolerance průměru m7
- stopka válcová



P	M	K	N	S	H
•	○	•	○	○	○

Popis	Průměr (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Stopka (mm)
V.030004.10.S3	3,00	62,0	20,0	36,0	6,000
V.031004.10.S3	3,10	62,0	20,0	36,0	6,000
V.031704.10.S3	3,17	62,0	20,0	36,0	6,000
V.032004.10.S3	3,20	62,0	20,0	36,0	6,000
V.032504.10.S3	3,25	62,0	20,0	36,0	6,000
V.033004.10.S3	3,30	62,0	20,0	36,0	6,000
V.034004.10.S3	3,40	62,0	20,0	36,0	6,000
V.035004.10.S3	3,50	62,0	20,0	36,0	6,000
V.035704.10.S3	3,57	62,0	20,0	36,0	6,000
V.036004.10.S3	3,60	62,0	20,0	36,0	6,000
V.037004.10.S3	3,70	62,0	20,0	36,0	6,000
V.038004.10.S3	3,80	66,0	24,0	36,0	6,000
V.039004.10.S3	3,90	66,0	24,0	36,0	6,000
V.039704.10.S3	3,97	66,0	24,0	36,0	6,000
V.040004.10.S3	4,00	66,0	24,0	36,0	6,000
V.041004.10.S3	4,10	66,0	24,0	36,0	6,000
V.042004.10.S3	4,20	66,0	24,0	36,0	6,000
V.043004.10.S3	4,30	66,0	24,0	36,0	6,000
V.043704.10.S3	4,37	66,0	24,0	36,0	6,000
V.044004.10.S3	4,40	66,0	24,0	36,0	6,000
V.045004.10.S3	4,50	66,0	24,0	36,0	6,000
V.046004.10.S3	4,60	66,0	24,0	36,0	6,000
V.046504.10.S3	4,65	66,0	24,0	36,0	6,000
V.047004.10.S3	4,70	66,0	24,0	36,0	6,000
V.047604.10.S3	4,76	66,0	28,0	36,0	6,000
V.048004.10.S3	4,80	66,0	28,0	36,0	6,000
V.049004.10.S3	4,90	66,0	28,0	36,0	6,000
V.050004.10.S3	5,00	66,0	28,0	36,0	6,000
V.051004.10.S3	5,10	66,0	28,0	36,0	6,000
V.051604.10.S3	5,16	66,0	28,0	36,0	6,000
V.052004.10.S3	5,20	66,0	28,0	36,0	6,000
V.053004.10.S3	5,30	66,0	28,0	36,0	6,000
V.054004.10.S3	5,40	66,0	28,0	36,0	6,000
V.055004.10.S3	5,50	66,0	28,0	36,0	6,000
V.055504.10.S3	5,55	66,0	28,0	36,0	6,000
V.055604.10.S3	5,56	66,0	28,0	36,0	6,000
V.056004.10.S3	5,60	66,0	28,0	36,0	6,000
V.057004.10.S3	5,70	66,0	28,0	36,0	6,000
V.058004.10.S3	5,80	66,0	28,0	36,0	6,000
V.059004.10.S3	5,90	66,0	28,0	36,0	6,000
V.059504.10.S3	5,95	66,0	28,0	36,0	6,000
V.060004.10.S3	6,00	66,0	28,0	36,0	6,000
V.061004.10.S3	6,10	79,0	34,0	36,0	8,000
V.062004.10.S3	6,20	79,0	34,0	36,0	8,000
V.063004.10.S3	6,30	79,0	34,0	36,0	8,000
V.063504.10.S3	6,35	79,0	34,0	36,0	8,000
V.064004.10.S3	6,40	79,0	34,0	36,0	8,000
V.065004.10.S3	6,50	79,0	34,0	36,0	8,000
V.066004.10.S3	6,60	79,0	34,0	36,0	8,000
V.067004.10.S3	6,70	79,0	34,0	36,0	8,000
V.067504.10.S3	6,75	79,0	34,0	36,0	8,000

Popis	Průměr (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Stopka (mm)
V.068004.10.S3	6,80	79,0	34,0	36,0	8,000
V.069004.10.S3	6,90	79,0	34,0	36,0	8,000
V.070004.10.S3	7,00	79,0	34,0	36,0	8,000
V.071004.10.S3	7,10	79,0	41,0	36,0	8,000
V.071404.10.S3	7,14	79,0	41,0	36,0	8,000
V.072004.10.S3	7,20	79,0	41,0	36,0	8,000
V.073004.10.S3	7,30	79,0	41,0	36,0	8,000
V.074004.10.S3	7,40	79,0	41,0	36,0	8,000
V.075004.10.S3	7,50	79,0	41,0	36,0	8,000
V.076004.10.S3	7,60	79,0	41,0	36,0	8,000
V.077004.10.S3	7,70	79,0	41,0	36,0	8,000
V.078004.10.S3	7,80	79,0	41,0	36,0	8,000
V.079004.10.S3	7,90	79,0	41,0	36,0	8,000
V.079404.10.S3	7,94	79,0	41,0	36,0	8,000
V.080004.10.S3	8,00	79,0	41,0	36,0	8,000
V.081004.10.S3	8,10	89,0	47,0	40,0	10,000
V.082004.10.S3	8,20	89,0	47,0	40,0	10,000
V.083004.10.S3	8,30	89,0	47,0	40,0	10,000
V.083304.10.S3	8,33	89,0	47,0	40,0	10,000
V.084004.10.S3	8,40	89,0	47,0	40,0	10,000
V.085004.10.S3	8,50	89,0	47,0	40,0	10,000
V.086004.10.S3	8,60	89,0	47,0	40,0	10,000
V.087004.10.S3	8,70	89,0	47,0	40,0	10,000
V.087304.10.S3	8,73	89,0	47,0	40,0	10,000
V.088004.10.S3	8,80	89,0	47,0	40,0	10,000
V.089004.10.S3	8,90	89,0	47,0	40,0	10,000
V.090004.10.S3	9,00	89,0	47,0	40,0	10,000
V.091004.10.S3	9,10	89,0	47,0	40,0	10,000
V.091304.10.S3	9,13	89,0	47,0	40,0	10,000
V.092004.10.S3	9,20	89,0	47,0	40,0	10,000
V.092504.10.S3	9,25	89,0	47,0	40,0	10,000
V.093004.10.S3	9,30	89,0	47,0	40,0	10,000
V.094004.10.S3	9,40	89,0	47,0	40,0	10,000
V.095004.10.S3	9,50	89,0	47,0	40,0	10,000
V.095204.10.S3	9,52	89,0	47,0	40,0	10,000
V.096004.10.S3	9,60	89,0	47,0	40,0	10,000
V.097004.10.S3	9,70	89,0	47,0	40,0	10,000
V.098004.10.S3	9,80	89,0	47,0	40,0	10,000
V.099004.10.S3	9,900	89,0	47,0	40,0	10,000
V.099204.10.S3	9,920	89,0	47,0	40,0	10,000
V.100004.10.S3	10,00	89,0	47,0	40,0	10,000
V.101004.10.S3	10,10	102,0	55,0	45,0	12,000
V.102004.10.S3	10,20	102,0	55,0	45,0	12,000
V.103004.10.S3	10,30	102,0	55,0	45,0	12,000
V.103204.10.S3	10,32	102,0	55,0	45,0	12,000
V.104004.10.S3	10,40	102,0	55,0	45,0	12,000
V.105004.10.S3	10,50	102,0	55,0	45,0	12,000
V.106004.10.S3	10,60	102,0	55,0	45,0	12,000
V.107004.10.S3	10,70	102,0	55,0	45,0	12,000
V.108004.10.S3	10,80	102,0	55,0	45,0	12,000
V.109004.10.S3	10,90	102,0	55,0	45,0	12,000

Popis	Průměr (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Stopka (mm)
V.110004.10.S3	11,00	102,0	55,0	45,0	12,000
V.111004.10.S3	11,10	102,0	55,0	45,0	12,000
V.111104.10.S3	11,11	102,0	55,0	45,0	12,000
V.112004.10.S3	11,20	102,0	55,0	45,0	12,000
V.113004.10.S3	11,30	102,0	55,0	45,0	12,000
V.114004.10.S3	11,40	102,0	55,0	45,0	12,000
V.115004.10.S3	11,50	102,0	55,0	45,0	12,000
V.116004.10.S3	11,60	102,0	55,0	45,0	12,000
V.117004.10.S3	11,70	102,0	55,0	45,0	12,000
V.118004.10.S3	11,80	102,0	55,0	45,0	12,000
V.119004.10.S3	11,90	102,0	55,0	45,0	12,000
V.119104.10.S3	11,91	102,0	55,0	45,0	12,000
V.120004.10.S3	12,00	102,0	55,0	45,0	12,000
V.121004.10.S3	12,10	107,0	60,0	45,0	14,000
V.122004.10.S3	12,20	107,0	60,0	45,0	14,000
V.123004.10.S3	12,30	107,0	60,0	45,0	14,000
V.125004.10.S3	12,50	107,0	60,0	45,0	14,000
V.127004.10.S3	12,70	107,0	60,0	45,0	14,000
V.130004.10.S3	13,00	107,0	60,0	45,0	14,000
V.131004.10.S3	13,10	107,0	60,0	45,0	14,000
V.132004.10.S3	13,20	107,0	60,0	45,0	14,000
V.133004.10.S3	13,30	107,0	60,0	45,0	14,000
V.135004.10.S3	13,50	107,0	60,0	45,0	14,000
V.137004.10.S3	13,70	107,0	60,0	45,0	14,000
V.140004.10.S3	14,00	107,0	60,0	45,0	14,000
V.141004.10.S3	14,10	115,0	65,0	48,0	16,000
V.142004.10.S3	14,20	115,0	65,0	48,0	16,000
V.142904.10.S3	14,290	115,0	65,0	48,0	16,000
V.144004.10.S3	14,40	115,0	65,0	48,0	16,000
V.145004.10.S3	14,50	115,0	65,0	48,0	16,000
V.146004.10.S3	14,60	115,0	65,0	48,0	16,000
V.147004.10.S3	14,70	115,0	65,0	48,0	16,000
V.150004.10.S3	15,00	115,0	65,0	48,0	16,000
V.152004.10.S3	15,20	115,0	65,0	48,0	16,000
V.155004.10.S3	15,50	115,0	65,0	48,0	16,000
V.157004.10.S3	15,70	115,0	65,0	48,0	16,000
V.160004.10.S3	16,00	115,0	65,0	48,0	16,000
V.161004.10.S3	16,10	123,0	73,0	48,0	18,000
V.165004.10.S3	16,50	123,0	73,0	48,0	18,000
V.169004.10.S3	16,90	123,0	73,0	48,0	18,000
V.170004.10.S3	17,00	123,0	73,0	48,0	18,000
V.173004.10.S3	17,30	123,0	73,0	48,0	18,000
V.175004.10.S3	17,50	123,0	73,0	48,0	18,000
V.177004.10.S3	17,70	123,0	73,0	48,0	18,000
V.180004.10.S3	18,00	123,0	73,0	48,0	18,000
V.185004.10.S3	18,50	131,0	79,0	50,0	20,000
V.189004.10.S3	18,90	131,0	79,0	50,0	20,000
V.190004.10.S3	19,00	131,0	79,0	50,0	20,000
V.195004.10.S3	19,50	131,0	79,0	50,0	20,000
V.200004.10.S3	20,00	131,0	79,0	50,0	20,000

# Tvrdokovový vrták 166520

s vnitřním / 3xD

## Řezné podmínky

	Typ materiálu	Pevnost v tahu (N/mm <sup>2</sup> ) Tvrlost	v <sub>c</sub> (m/min.)	Posuv (mm/ot.)			
				3,0 - 7,9	8,0 - 15,9	16,0 - 20,0	
<b>P</b>	Konstrukční ocel	≤500	145	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
		≤1000	120	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400	
	Automatová ocel	≤850	170	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
		≤1000	145	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
	Nelegovaná kalená ocel	≤700	130	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
		≤850	125	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
		≤1000	120	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
	Legovaná kalená ocel	≤1000	120	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
		≤1400	105	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
	Nelegovaná cementovaná ocel	≤850	145	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
	Legovaná cementovaná ocel	≤1000	120	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
	Nitridovaná ocel	≤1000	110	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
		≤1400	105	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	
	Nástrojová ocel	≤850	80	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400	
≤1400		65	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315		
<b>M</b>	Nerezová ocel	≤900	60	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	
		austenititická	≤1100	55	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315
	Martenzitická	≤1500	45	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	
<b>H</b>	Kalená ocel	≤48 HRC	55	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200	
		≤66 HRC	35	0,040 - 0,050 - 0,063	0,080 - 0,100	0,125 - 0,160	
<b>K</b>	Litina	≤240 HB	210	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
		≤350 HB	160	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
	Temperovaná litina	≤240 HB	140	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
		≤350 HB	130	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
	Tvrzená litina	≤350 HB	40	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200	
<b>S</b>	Titan a slitiny Titanu	≤850	35	0,063 - 0,080 - 0,100	0,125 - 0,160	0,200 - 0,250	
		≤1400	45	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200	
<b>N</b>	Hliník a slitiny hliníku	≤400	310	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630	
		Kovaný hliník	≤650	310	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630
	Slitiny hliníku	≤10 % Si	≤600	260	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630
		> 10 % Si	≤600	220	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630
	Hořčík a slitiny hořčíku	≤400	280	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630	
	Měď	≤500	125	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500	
		Mosaz	≤600	325	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
			≤600	220	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		Bronz	≤600	125	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
			≤850	105	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
			≤850	90	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
		≤1000	80	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400	