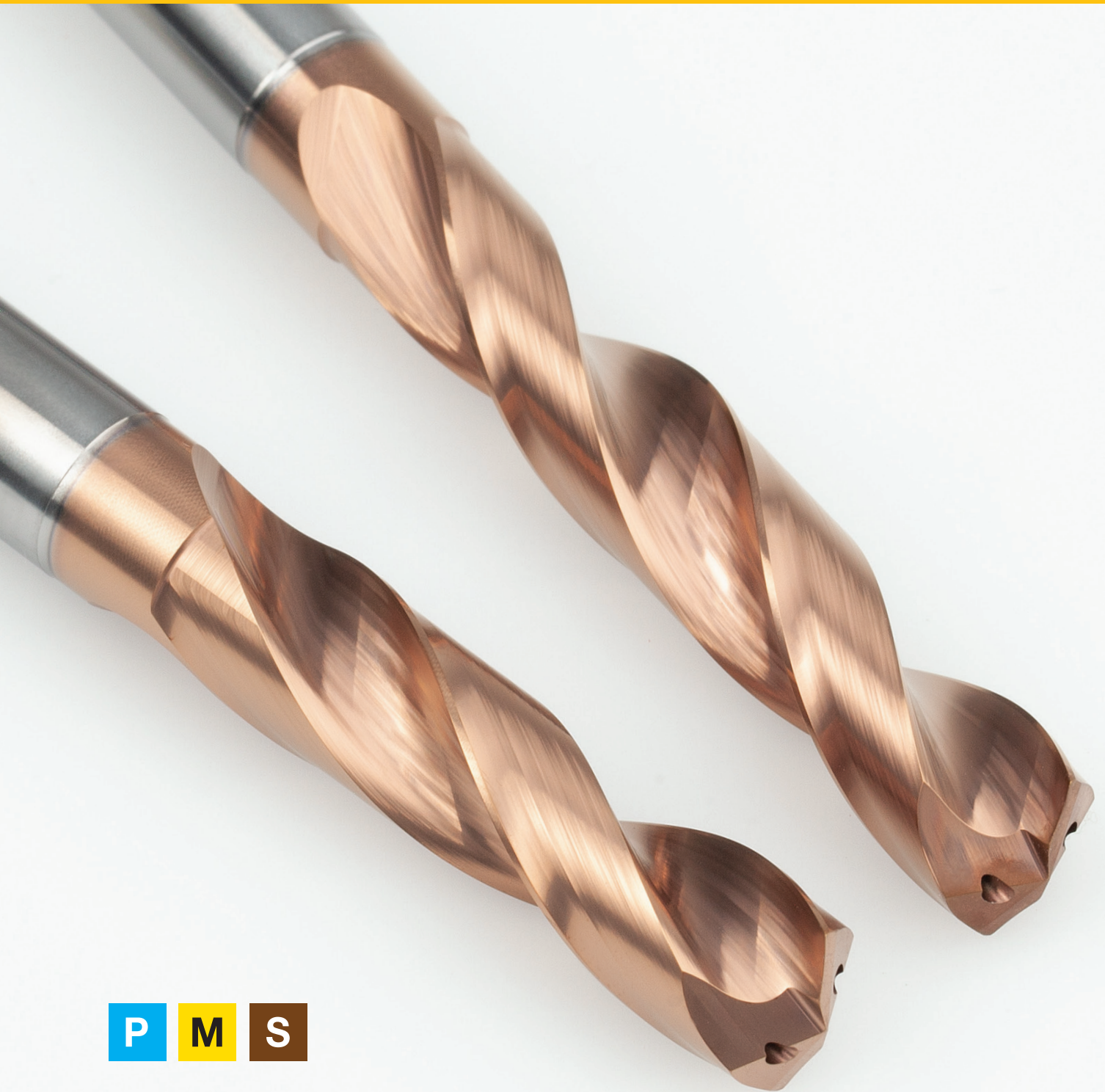




Typhoon HVA

High performance carbide drills for stainless steel



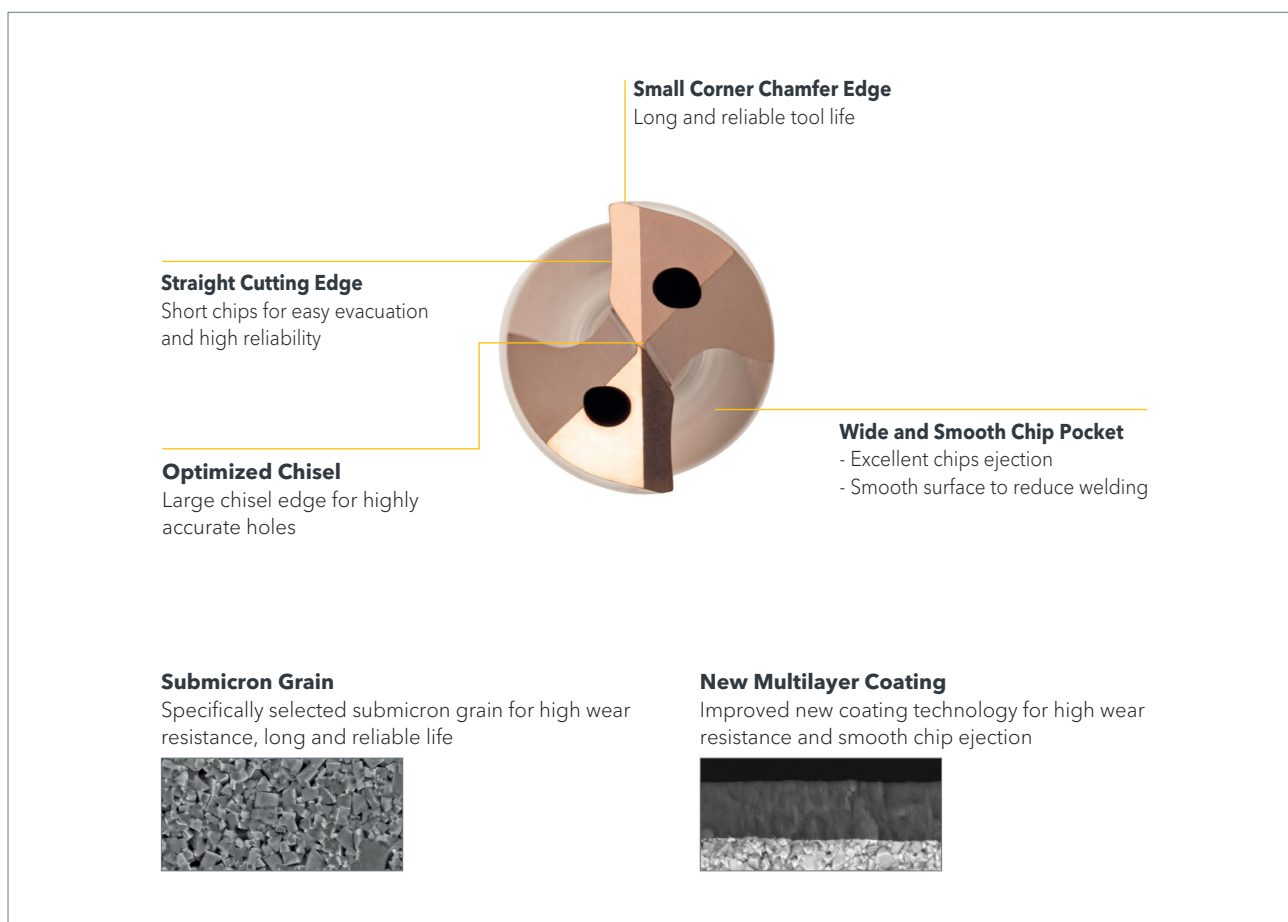
P M S

 **OSAWA**
DRILLS & END MILLS

HVA

- A new series of solid carbide drill with selected substrate, coating and excellent geometry for high performance on ISO M as well on material groups ISO P, S.
- New submicron grain substrate, new multilayer and smooth coating guarantees long and reliable tool life.
- Special cutting edge design and wide chip pocket allow excellent chip ejection.
- Internal coolant 3xD and 5xD.
- Range D3.0- D16.0.

FEATURES



353HVA

Stainless steel

3XD

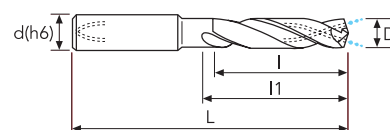
DIN
6537K

353HVA replaces 353SUH.

353HVA will be gradually available as soon as 353SUH stock is phased out

P	M	K	N	S	H
☆	★			☆	

★ 1st choice ☆ suitable



D(m7)	D Tol.	d(h6)	l	l1	L	EDP No.	Stock
3.00	+0.012/+0.002	6	14	20	62	353HVA0300	●
3.10	+0.016/+0.004	6	14	20	62	353HVA0310	●
3.20	+0.016/+0.004	6	14	20	62	353HVA0320	●
3.30	+0.016/+0.004	6	14	20	62	353HVA0330	●
3.40	+0.016/+0.004	6	14	20	62	353HVA0340	●
3.50	+0.016/+0.004	6	14	20	62	353HVA0350	●
3.60	+0.016/+0.004	6	14	20	62	353HVA0360	●
3.70	+0.016/+0.004	6	14	20	62	353HVA0370	●
3.80	+0.016/+0.004	6	17	24	66	353HVA0380	●
3.90	+0.016/+0.004	6	17	24	66	353HVA0390	●
4.00	+0.016/+0.004	6	17	24	66	353HVA0400	●
4.10	+0.016/+0.004	6	17	24	66	353HVA0410	●
4.20	+0.016/+0.004	6	17	24	66	353HVA0420	●
4.30	+0.016/+0.004	6	17	24	66	353HVA0430	●
4.40	+0.016/+0.004	6	17	24	66	353HVA0440	●
4.50	+0.016/+0.004	6	17	24	66	353HVA0450	●
4.60	+0.016/+0.004	6	17	24	66	353HVA0460	●
4.70	+0.016/+0.004	6	17	24	66	353HVA0470	●
4.80	+0.016/+0.004	6	20	28	66	353HVA0480	●
4.90	+0.016/+0.004	6	20	28	66	353HVA0490	●
5.00	+0.016/+0.004	6	20	28	66	353HVA0500	●
5.10	+0.016/+0.004	6	20	28	66	353HVA0510	●
5.20	+0.016/+0.004	6	20	28	66	353HVA0520	●
5.30	+0.016/+0.004	6	20	28	66	353HVA0530	●
5.40	+0.016/+0.004	6	20	28	66	353HVA0540	●
5.50	+0.016/+0.004	6	20	28	66	353HVA0550	●
5.60	+0.016/+0.004	6	20	28	66	353HVA0560	●
5.70	+0.016/+0.004	6	20	28	66	353HVA0570	●
5.80	+0.016/+0.004	6	20	28	66	353HVA0580	●
5.90	+0.016/+0.004	6	20	28	66	353HVA0590	●
6.00	+0.016/+0.004	6	20	28	66	353HVA0600	●
6.10	+0.021/+0.006	8	24	34	79	353HVA0610	●
6.20	+0.021/+0.006	8	24	34	79	353HVA0620	●
6.30	+0.021/+0.006	8	24	34	79	353HVA0630	●
6.40	+0.021/+0.006	8	24	34	79	353HVA0640	●
6.50	+0.021/+0.006	8	24	34	79	353HVA0650	●
6.60	+0.021/+0.006	8	24	34	79	353HVA0660	●
6.70	+0.021/+0.006	8	24	34	79	353HVA0670	●
6.80	+0.021/+0.006	8	24	34	79	353HVA0680	●

● stock standard ○ non-standard stock ▽ stock exhaustion

353HVA

Stainless steel

3XD

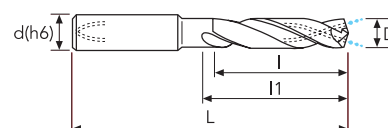
DIN
6537K

353HVA replaces 353SUH.

353HVA will be gradually available as soon as 353SUH stock is phased out

P	M	K	N	S	H
☆	★			☆	

★ 1st choice ☆ suitable

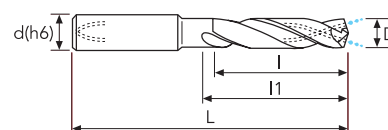


D(m7)	D Tol.	d(h6)	l	l1	L	EDP No.	Stock
6.90	+0.021/+0.006	8	24	34	79	353HVA0690	●
7.00	+0.021/+0.006	8	24	34	79	353HVA0700	●
7.10	+0.021/+0.006	8	29	41	79	353HVA0710	●
7.20	+0.021/+0.006	8	29	41	79	353HVA0720	●
7.30	+0.021/+0.006	8	29	41	79	353HVA0730	●
7.40	+0.021/+0.006	8	29	41	79	353HVA0740	●
7.50	+0.021/+0.006	8	29	41	79	353HVA0750	●
7.60	+0.021/+0.006	8	29	41	79	353HVA0760	●
7.70	+0.021/+0.006	8	29	41	79	353HVA0770	●
7.80	+0.021/+0.006	8	29	41	79	353HVA0780	●
7.90	+0.021/+0.006	8	29	41	79	353HVA0790	●
8.00	+0.021/+0.006	8	29	41	79	353HVA0800	●
8.10	+0.021/+0.006	10	35	47	89	353HVA0810	●
8.20	+0.021/+0.006	10	35	47	89	353HVA0820	●
8.30	+0.021/+0.006	10	35	47	89	353HVA0830	●
8.40	+0.021/+0.006	10	35	47	89	353HVA0840	●
8.50	+0.021/+0.006	10	35	47	89	353HVA0850	●
8.60	+0.021/+0.006	10	35	47	89	353HVA0860	●
8.70	+0.021/+0.006	10	35	47	89	353HVA0870	●
8.80	+0.021/+0.006	10	35	47	89	353HVA0880	●
8.90	+0.021/+0.006	10	35	47	89	353HVA0890	●
9.00	+0.021/+0.006	10	35	47	89	353HVA0900	●
9.10	+0.021/+0.006	10	35	47	89	353HVA0910	●
9.20	+0.021/+0.006	10	35	47	89	353HVA0920	●
9.30	+0.021/+0.006	10	35	47	89	353HVA0930	●
9.40	+0.021/+0.006	10	35	47	89	353HVA0940	●
9.50	+0.021/+0.006	10	35	47	89	353HVA0950	●
9.60	+0.021/+0.006	10	35	47	89	353HVA0960	●
9.70	+0.021/+0.006	10	35	47	89	353HVA0970	●
9.80	+0.021/+0.006	10	35	47	89	353HVA0980	●
9.90	+0.021/+0.006	10	35	47	89	353HVA0990	●
10.00	+0.021/+0.006	10	35	47	89	353HVA1000	●
10.10	+0.025/+0.007	12	40	55	102	353HVA1010	●
10.20	+0.025/+0.007	12	40	55	102	353HVA1020	●
10.30	+0.025/+0.007	12	40	55	102	353HVA1030	●
10.50	+0.025/+0.007	12	40	55	102	353HVA1050	●
10.60	+0.025/+0.007	12	40	55	102	353HVA1060	●
10.80	+0.025/+0.007	12	40	55	102	353HVA1080	●
11.00	+0.025/+0.007	12	40	55	102	353HVA1100	●

Stainless steel



★ 1st choice ☆ suitable



● stock standard ○ non-standard stock ▽ stock exhaustion

CUTTING PARAMETERS

353HVA

 Ø RUN OUT <0.02mm	Material Group ISO 513	P1 P2	P3 P4	P5	P6	P7	P8
	Hardness/Rm	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1200 N/mm ²	1200÷1400 N/mm ²	<700 N/mm ²	850÷1200 N/mm ²
	Vc (m/min)	100÷140	80÷120	70÷90	50÷70	50÷70	20÷30
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
	3	0.118	0.106	0.095	0.083	0.077	0.046
	4	0.140	0.126	0.112	0.098	0.091	0.055
	5	0.161	0.145	0.129	0.113	0.105	0.063
	6	0.183	0.164	0.146	0.128	0.119	0.071
	7	0.204	0.184	0.163	0.143	0.133	0.080
	8	0.226	0.203	0.181	0.158	0.147	0.088
	9	0.247	0.223	0.198	0.173	0.161	0.096
	10	0.269	0.242	0.215	0.188	0.175	0.105
	11	0.280	0.252	0.224	0.196	0.182	0.109
	12	0.301	0.271	0.241	0.211	0.196	0.117
	13	0.323	0.290	0.258	0.226	0.210	0.126
	14	0.344	0.310	0.275	0.241	0.224	0.134
	15	0.366	0.329	0.292	0.256	0.238	0.143
	16	0.387	0.348	0.310	0.271	0.252	0.151
	17	0.398	0.358	0.318	0.278	0.259	0.155
	18	0.409	0.368	0.327	0.286	0.266	0.159
	19	0.419	0.377	0.335	0.293	0.273	0.164
	20	0.430	0.387	0.344	0.301	0.280	0.168

 Ø RUN OUT <0.02mm	Material Group ISO 513	M1	M2	M3			
	Hardness/Rm	<750 N/mm ²	550÷850 N/mm ²	650÷950 N/mm ²			
	Vc (m/min)	50÷70	45÷65	35÷50			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.077	0.061	0.054			
	4	0.091	0.073	0.064			
	5	0.105	0.084	0.073			
	6	0.119	0.095	0.083			
	7	0.133	0.106	0.093			
	8	0.147	0.117	0.103			
	9	0.161	0.129	0.112			
	10	0.175	0.140	0.122			
	11	0.182	0.145	0.127			
	12	0.196	0.157	0.137			
	13	0.210	0.168	0.147			
	14	0.224	0.179	0.157			
	15	0.238	0.190	0.166			
	16	0.252	0.201	0.176			
	17	0.259	0.207	0.181			
	18	0.266	0.212	0.186			
	19	0.273	0.218	0.191			
	20	0.280	0.224	0.196			

CUTTING PARAMETERS

353HVA

 Ø RUN OUT <0.02mm	Material Group ISO 513	S1 S2	S3	S4	S5		
	Hardness/Rm	<35 N/mm ²	35÷45 N/mm ²				
	Vc (m/min)	30÷50	25÷45	30÷45	25÷35		
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)		
	3	0.053	0.037	0.051	0.043		
	4	0.063	0.044	0.060	0.050		
	5	0.073	0.051	0.069	0.058		
	6	0.082	0.058	0.078	0.066		
	7	0.092	0.064	0.087	0.074		
	8	0.102	0.071	0.097	0.081		
	9	0.111	0.078	0.106	0.089		
	10	0.121	0.085	0.115	0.097		
	11	0.126	0.088	0.119	0.101		
	12	0.135	0.095	0.129	0.108		
	13	0.145	0.102	0.138	0.116		
	14	0.155	0.108	0.147	0.124		
	15	0.164	0.115	0.156	0.132		
	16	0.174	0.122	0.165	0.139		
	17	0.179	0.125	0.170	0.143		
	18	0.184	0.129	0.175	0.147		
	19	0.189	0.132	0.179	0.151		
	20	0.194	0.135	0.185	0.155		

355HVA

Stainless steel

5XD

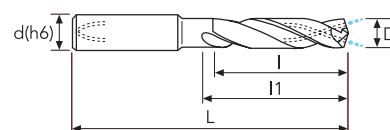
DIN
6537LMG
PV350

355HVA replaces 355SUH.

355HVA will be gradually available as soon as 355SUH stock is phased out

P	M	K	N	S	H
☆	★			☆	

★ 1st choice ☆ suitable



D(m7)	D Tol.	d(h6)	l	l1	L	EDP No.	Stock
3.00	+0.012/+0.002	6	23	28	66	355HVA0300	●
3.10	+0.016/+0.004	6	23	28	66	355HVA0310	●
3.20	+0.016/+0.004	6	23	28	66	355HVA0320	●
3.30	+0.016/+0.004	6	23	28	66	355HVA0330	●
3.40	+0.016/+0.004	6	23	28	66	355HVA0340	●
3.50	+0.016/+0.004	6	23	28	66	355HVA0350	●
3.60	+0.016/+0.004	6	23	28	66	355HVA0360	●
3.70	+0.016/+0.004	6	23	28	66	355HVA0370	●
3.80	+0.016/+0.004	6	29	36	74	355HVA0380	●
3.90	+0.016/+0.004	6	29	36	74	355HVA0390	●
4.00	+0.016/+0.004	6	29	36	74	355HVA0400	●
4.10	+0.016/+0.004	6	29	36	74	355HVA0410	●
4.20	+0.016/+0.004	6	29	36	74	355HVA0420	●
4.30	+0.016/+0.004	6	29	36	74	355HVA0430	●
4.40	+0.016/+0.004	6	29	36	74	355HVA0440	●
4.50	+0.016/+0.004	6	29	36	74	355HVA0450	●
4.60	+0.016/+0.004	6	29	36	74	355HVA0460	●
4.70	+0.016/+0.004	6	29	36	74	355HVA0470	●
4.80	+0.016/+0.004	6	35	44	82	355HVA0480	●
4.90	+0.016/+0.004	6	35	44	82	355HVA0490	●
5.00	+0.016/+0.004	6	35	44	82	355HVA0500	●
5.10	+0.016/+0.004	6	35	44	82	355HVA0510	●
5.20	+0.016/+0.004	6	35	44	82	355HVA0520	●
5.30	+0.016/+0.004	6	35	44	82	355HVA0530	●
5.40	+0.016/+0.004	6	35	44	82	355HVA0540	●
5.50	+0.016/+0.004	6	35	44	82	355HVA0550	●
5.60	+0.016/+0.004	6	35	44	82	355HVA0560	●
5.70	+0.016/+0.004	6	35	44	82	355HVA0570	●
5.80	+0.016/+0.004	6	35	44	82	355HVA0580	●
5.90	+0.016/+0.004	6	35	44	82	355HVA0590	●
6.00	+0.016/+0.004	6	35	44	82	355HVA0600	●
6.10	+0.021/+0.006	8	43	53	91	355HVA0610	●
6.20	+0.021/+0.006	8	43	53	91	355HVA0620	●
6.30	+0.021/+0.006	8	43	53	91	355HVA0630	●
6.40	+0.021/+0.006	8	43	53	91	355HVA0640	●
6.50	+0.021/+0.006	8	43	53	91	355HVA0650	●
6.60	+0.021/+0.006	8	43	53	91	355HVA0660	●
6.70	+0.021/+0.006	8	43	53	91	355HVA0670	●
6.80	+0.021/+0.006	8	43	53	91	355HVA0680	●

355HVA

Stainless steel

5XD

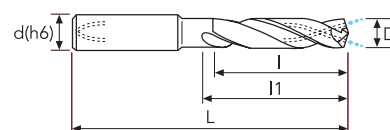
DIN
6537L

355HVA replaces 355SUH.

355HVA will be gradually available as soon as 355SUH stock is phased out

P	M	K	N	S	H
☆	★			☆	

★ 1st choice ☆ suitable

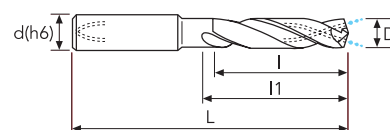


D(m7)	D Tol.	d(h6)	l	l1	L	EDP No.	Stock
6.90	+0.021/+0.006	8	43	53	91	355HVA0690	●
7.00	+0.021/+0.006	8	43	53	91	355HVA0700	●
7.10	+0.021/+0.006	8	43	53	91	355HVA0710	●
7.20	+0.021/+0.006	8	43	53	91	355HVA0720	●
7.30	+0.021/+0.006	8	43	53	91	355HVA0730	●
7.40	+0.021/+0.006	8	43	53	91	355HVA0740	●
7.50	+0.021/+0.006	8	43	53	91	355HVA0750	●
7.60	+0.021/+0.006	8	43	53	91	355HVA0760	●
7.70	+0.021/+0.006	8	43	53	91	355HVA0770	●
7.80	+0.021/+0.006	8	43	53	91	355HVA0780	●
7.90	+0.021/+0.006	8	43	53	91	355HVA0790	●
8.00	+0.021/+0.006	8	43	53	91	355HVA0800	●
8.10	+0.021/+0.006	10	49	61	103	355HVA0810	●
8.20	+0.021/+0.006	10	49	61	103	355HVA0820	●
8.30	+0.021/+0.006	10	49	61	103	355HVA0830	●
8.40	+0.021/+0.006	10	49	61	103	355HVA0840	●
8.50	+0.021/+0.006	10	49	61	103	355HVA0850	●
8.60	+0.021/+0.006	10	49	61	103	355HVA0860	●
8.70	+0.021/+0.006	10	49	61	103	355HVA0870	●
8.80	+0.021/+0.006	10	49	61	103	355HVA0880	●
8.90	+0.021/+0.006	10	49	61	103	355HVA0890	●
9.00	+0.021/+0.006	10	49	61	103	355HVA0900	●
9.10	+0.021/+0.006	10	49	61	103	355HVA0910	●
9.20	+0.021/+0.006	10	49	61	103	355HVA0920	●
9.30	+0.021/+0.006	10	49	61	103	355HVA0930	●
9.40	+0.021/+0.006	10	49	61	103	355HVA0940	●
9.50	+0.021/+0.006	10	49	61	103	355HVA0950	●
9.60	+0.021/+0.006	10	49	61	103	355HVA0960	●
9.70	+0.021/+0.006	10	49	61	103	355HVA0970	●
9.80	+0.021/+0.006	10	49	61	103	355HVA0980	●
9.90	+0.021/+0.006	10	49	61	103	355HVA0990	●
10.00	+0.021/+0.006	10	49	61	103	355HVA1000	●
10.10	+0.025/+0.007	12	52	71	118	355HVA1010	●
10.20	+0.025/+0.007	12	52	71	118	355HVA1020	●
10.30	+0.025/+0.007	12	52	71	118	355HVA1030	●
10.50	+0.025/+0.007	12	52	71	118	355HVA1050	●
10.60	+0.025/+0.007	12	52	71	118	355HVA1060	●
10.80	+0.025/+0.007	12	52	71	118	355HVA1080	●
11.00	+0.025/+0.007	12	52	71	118	355HVA1100	●

Stainless steel



★ 1st choice ☆ suitable

[illegible]

CUTTING PARAMETERS

355HVA

	Material Group ISO 513	P1 P2	P3 P4	P5	P6	P7	P8
	Hardness/Rm	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1200 N/mm ²	1200÷1400 N/mm ²	<700 N/mm ²	850÷1200 N/mm ²
	Vc (m/min)	100÷140	80÷120	70÷90	50÷70	50÷70	20÷30
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
 Ø RUN OUT <0.02mm	3	0.101	0.075	0.060	0.050	0.065	0.039
	4	0.119	0.089	0.071	0.059	0.077	0.046
	5	0.137	0.103	0.082	0.069	0.089	0.053
	6	0.155	0.117	0.093	0.078	0.101	0.061
	7	0.174	0.130	0.104	0.087	0.113	0.068
	8	0.192	0.144	0.115	0.096	0.125	0.075
	9	0.210	0.158	0.126	0.105	0.137	0.082
	10	0.228	0.171	0.137	0.114	0.148	0.089
	11	0.238	0.178	0.143	0.119	0.154	0.093
	12	0.256	0.192	0.154	0.128	0.166	0.100
	13	0.274	0.206	0.164	0.137	0.178	0.107
	14	0.292	0.219	0.175	0.146	0.190	0.114
	15	0.311	0.233	0.186	0.155	0.202	0.121
	16	0.329	0.247	0.197	0.164	0.214	0.128
	17	0.338	0.254	0.203	0.169	0.220	0.132
	18	0.347	0.260	0.208	0.174	0.226	0.135
	19	0.356	0.267	0.214	0.178	0.232	0.139
	20	0.366	0.274	0.219	0.183	0.238	0.143

	Material Group ISO 513	M1	M2	M3			
	Hardness/Rm	<750 N/mm ²	550÷850 N/mm ²	650÷950 N/mm ²			
	Vc (m/min)	50÷70	45÷65	35÷50			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
 Ø RUN OUT <0.02mm	3	0.065	0.052	0.046			
	4	0.077	0.062	0.054			
	5	0.089	0.071	0.062			
	6	0.101	0.081	0.071			
	7	0.113	0.090	0.079			
	8	0.125	0.100	0.087			
	9	0.137	0.109	0.096			
	10	0.148	0.119	0.104			
	11	0.154	0.124	0.108			
	12	0.166	0.133	0.116			
	13	0.178	0.143	0.125			
	14	0.190	0.152	0.133			
	15	0.202	0.162	0.141			
	16	0.214	0.171	0.150			
	17	0.220	0.176	0.154			
	18	0.226	0.181	0.158			
	19	0.232	0.185	0.162			
	20	0.238	0.190	0.166			

CUTTING PARAMETERS

355HVA

 Ø RUN OUT <0.02mm	Material Group ISO 513	S1 S2	S3	S4	S5		
	Hardness/Rm	<35 N/mm ²	35÷45 N/mm ²				
	Vc (m/min)	30÷50	25÷45	30÷45	25÷35		
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)		
	3	0.045	0.032	0.043	0.036		
	4	0.053	0.037	0.051	0.043		
	5	0.062	0.043	0.059	0.049		
	6	0.070	0.049	0.066	0.056		
	7	0.078	0.055	0.074	0.063		
	8	0.086	0.060	0.082	0.069		
	9	0.095	0.066	0.090	0.076		
	10	0.103	0.072	0.098	0.082		
	11	0.107	0.075	0.102	0.086		
	12	0.115	0.081	0.109	0.092		
	13	0.123	0.086	0.117	0.099		
	14	0.132	0.092	0.125	0.105		
	15	0.140	0.098	0.133	0.112		
	16	0.148	0.104	0.141	0.118		
	17	0.152	0.106	0.145	0.122		
	18	0.156	0.109	0.148	0.125		
	19	0.160	0.112	0.152	0.128		
	20	0.164	0.115	0.156	0.132		

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