



Typhoon GA-HGA

High performance carbide drills, Weldon shank



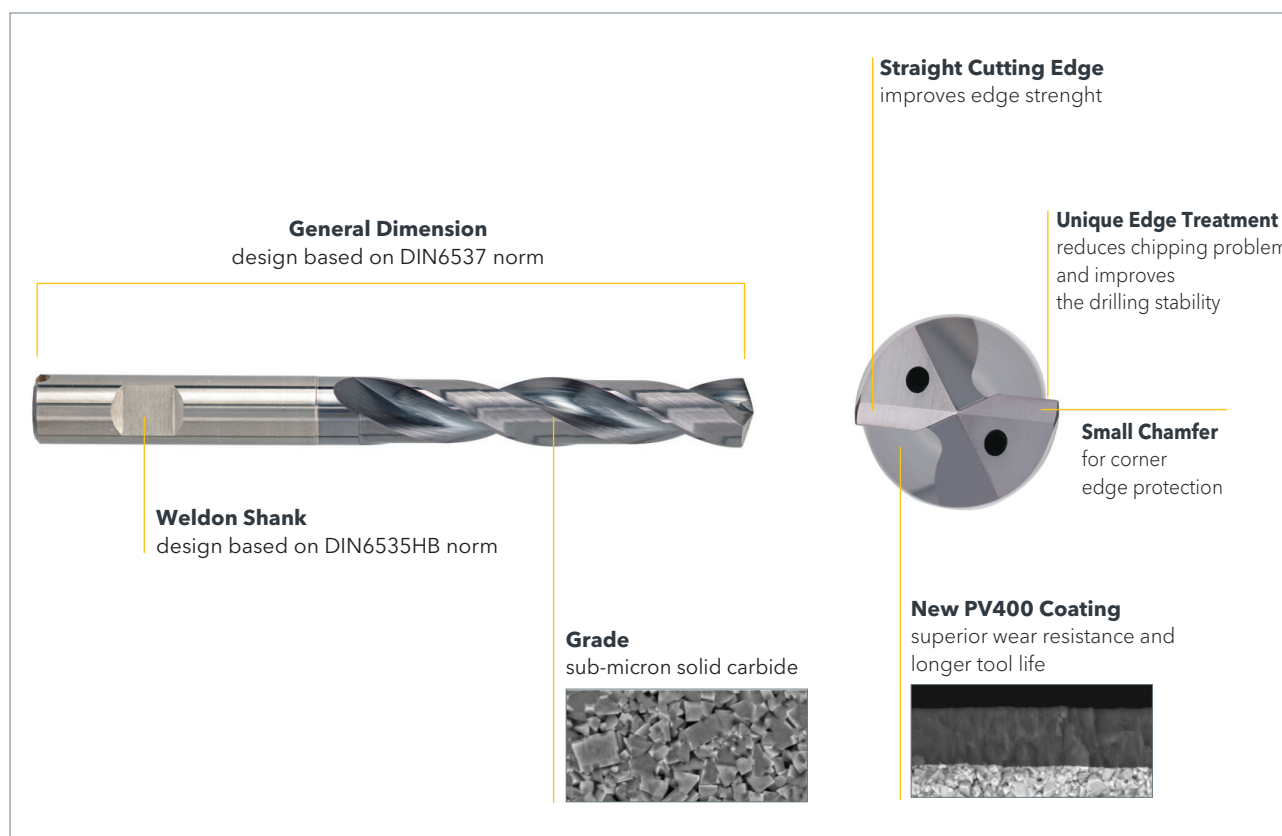
WIDE RANGE
FOR GENERAL APPLICATION

 **OSAWA**
DRILLS & END MILLS

GA-HGA

- A new series of solid carbide drills with Weldon shank designed for general machining.
- Made of sub-micron cemented carbide as well as new PV400 coating for better wear resistance (lower cost per hole).
- Straight cutting edge design and unique edge treatment technology allow higher reliability.
- Range: D3 - D20, internal and external coolant, 3xD and 5xD.

FEATURES



373GA-HGA

General application, Weldon shank

3XD

DIN
6537KMG
PV400

373GA 373HGA



373GA



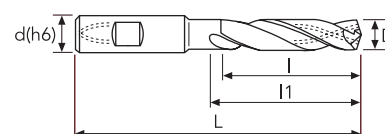
373HGA

P	M	K	N	S	H
★		★			
★	☆	★			

373GA

373HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	373GA EDP No.	Stock	373HGA EDP No.	Stock
3,0	+0.004/+0.016	6	14	20	62	373GA0300	●	373HGA0300	●
3,1	+0.004/+0.016	6	14	20	62	373GA0310	●	373HGA0310	●
3,2	+0.004/+0.016	6	14	20	62	373GA0320	●	373HGA0320	●
3,3	+0.004/+0.016	6	14	20	62	373GA0330	●	373HGA0330	●
3,4	+0.004/+0.016	6	14	20	62	373GA0340	●	373HGA0340	●
3,5	+0.004/+0.016	6	14	20	62	373GA0350	●	373HGA0350	●
3,6	+0.004/+0.016	6	14	20	62	373GA0360	●	373HGA0360	●
3,7	+0.004/+0.016	6	14	20	62	373GA0370	●	373HGA0370	●
3,8	+0.004/+0.016	6	17	24	66	373GA0380	●	373HGA0380	●
3,9	+0.004/+0.016	6	17	24	66	373GA0390	●	373HGA0390	●
4,0	+0.004/+0.016	6	17	24	66	373GA0400	●	373HGA0400	●
4,1	+0.004/+0.016	6	17	24	66	373GA0410	●	373HGA0410	●
4,2	+0.004/+0.016	6	17	24	66	373GA0420	●	373HGA0420	●
4,3	+0.004/+0.016	6	17	24	66	373GA0430	●	373HGA0430	●
4,4	+0.004/+0.016	6	17	24	66	373GA0440	●	373HGA0440	●
4,5	+0.004/+0.016	6	17	24	66	373GA0450	●	373HGA0450	●
4,6	+0.004/+0.016	6	17	24	66	373GA0460	●	373HGA0460	●
4,7	+0.004/+0.016	6	17	24	66	373GA0470	●	373HGA0470	●
4,8	+0.004/+0.016	6	20	28	66	373GA0480	●	373HGA0480	●
4,9	+0.004/+0.016	6	20	28	66	373GA0490	●	373HGA0490	●
5,0	+0.004/+0.016	6	20	28	66	373GA0500	●	373HGA0500	●
5,1	+0.004/+0.016	6	20	28	66	373GA0510	●	373HGA0510	●
5,2	+0.004/+0.016	6	20	28	66	373GA0520	●	373HGA0520	●
5,3	+0.004/+0.016	6	20	28	66	373GA0530	●	373HGA0530	●
5,4	+0.004/+0.016	6	20	28	66	373GA0540	●	373HGA0540	●
5,5	+0.004/+0.016	6	20	28	66	373GA0550	●	373HGA0550	●
5,6	+0.004/+0.016	6	20	28	66	373GA0560	●	373HGA0560	●
5,7	+0.004/+0.016	6	20	28	66	373GA0570	●	373HGA0570	●
5,8	+0.004/+0.016	6	20	28	66	373GA0580	●	373HGA0580	●
5,9	+0.004/+0.016	6	20	28	66	373GA0590	●	373HGA0590	●
6,0	+0.004/+0.016	6	20	28	66	373GA0600	●	373HGA0600	●
6,1	+0.006/+0.021	8	24	34	79	373GA0610	●	373HGA0610	●
6,2	+0.006/+0.021	8	24	34	79	373GA0620	●	373HGA0620	●
6,3	+0.006/+0.021	8	24	34	79	373GA0630	●	373HGA0630	●
6,4	+0.006/+0.021	8	24	34	79	373GA0640	●	373HGA0640	●
6,5	+0.006/+0.021	8	24	34	79	373GA0650	●	373HGA0650	●
6,6	+0.006/+0.021	8	24	34	79	373GA0660	●	373HGA0660	●
6,7	+0.006/+0.021	8	24	34	79	373GA0670	●	373HGA0670	●
6,8	+0.006/+0.021	8	24	34	79	373GA0680	●	373HGA0680	●

● stock standard ○ non-standard stock

373GA-HGA

General application, Weldon shank



373GA 373HGA



373GA



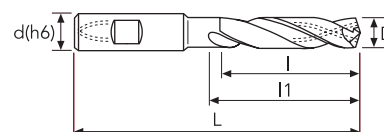
373HGA

P	M	K	N	S	H
★		★			
★	☆	★			

373GA

373HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	373GA EDP No.	Stock	373HGA EDP No.	Stock
6,9	+0.006/+0.021	8	24	34	79	373GA0690	●	373HGA0690	●
7,0	+0.006/+0.021	8	24	34	79	373GA0700	●	373HGA0700	●
7,1	+0.006/+0.021	8	29	41	79	373GA0710	●	373HGA0710	●
7,2	+0.006/+0.021	8	29	41	79	373GA0720	●	373HGA0720	●
7,3	+0.006/+0.021	8	29	41	79	373GA0730	●	373HGA0730	●
7,4	+0.006/+0.021	8	29	41	79	373GA0740	●	373HGA0740	●
7,5	+0.006/+0.021	8	29	41	79	373GA0750	●	373HGA0750	●
7,6	+0.006/+0.021	8	29	41	79	373GA0760	●	373HGA0760	●
7,7	+0.006/+0.021	8	29	41	79	373GA0770	●	373HGA0770	●
7,8	+0.006/+0.021	8	29	41	79	373GA0780	●	373HGA0780	●
7,9	+0.006/+0.021	8	29	41	79	373GA0790	●	373HGA0790	●
8,0	+0.006/+0.021	8	29	41	79	373GA0800	●	373HGA0800	●
8,1	+0.006/+0.021	10	35	47	89	373GA0810	●	373HGA0810	●
8,2	+0.006/+0.021	10	35	47	89	373GA0820	●	373HGA0820	●
8,3	+0.006/+0.021	10	35	47	89	373GA0830	●	373HGA0830	●
8,4	+0.006/+0.021	10	35	47	89	373GA0840	●	373HGA0840	●
8,5	+0.006/+0.021	10	35	47	89	373GA0850	●	373HGA0850	●
8,6	+0.006/+0.021	10	35	47	89	373GA0860	●	373HGA0860	●
8,7	+0.006/+0.021	10	35	47	89	373GA0870	●	373HGA0870	●
8,8	+0.006/+0.021	10	35	47	89	373GA0880	●	373HGA0880	●
8,9	+0.006/+0.021	10	35	47	89	373GA0890	●	373HGA0890	●
9,0	+0.006/+0.021	10	35	47	89	373GA0900	●	373HGA0900	●
9,1	+0.006/+0.021	10	35	47	89	373GA0910	●	373HGA0910	●
9,2	+0.006/+0.021	10	35	47	89	373GA0920	●	373HGA0920	●
9,3	+0.006/+0.021	10	35	47	89	373GA0930	●	373HGA0930	●
9,4	+0.006/+0.021	10	35	47	89	373GA0940	●	373HGA0940	●
9,5	+0.006/+0.021	10	35	47	89	373GA0950	●	373HGA0950	●
9,6	+0.006/+0.021	10	35	47	89	373GA0960	●	373HGA0960	●
9,7	+0.006/+0.021	10	35	47	89	373GA0970	●	373HGA0970	●
9,8	+0.006/+0.021	10	35	47	89	373GA0980	●	373HGA0980	●
9,9	+0.006/+0.021	10	35	47	89	373GA0990	●	373HGA0990	●
10,0	+0.006/+0.021	10	35	47	89	373GA1000	●	373HGA1000	●
10,1	+0.007/+0.025	12	40	55	102	373GA1010	●	373HGA1010	●
10,2	+0.007/+0.025	12	40	55	102	373GA1020	●	373HGA1020	●
10,3	+0.007/+0.025	12	40	55	102	373GA1030	●	373HGA1030	●
10,4	+0.007/+0.025	12	40	55	102	373GA1040	●	373HGA1040	●
10,5	+0.007/+0.025	12	40	55	102	373GA1050	●	373HGA1050	●
10,6	+0.007/+0.025	12	40	55	102	373GA1060	●	373HGA1060	●
10,7	+0.007/+0.025	12	40	55	102	373GA1070	●	373HGA1070	●

● stock standard ○ non-standard stock

373GA-HGA

General application, Weldon shank



373GA 373HGA



373GA



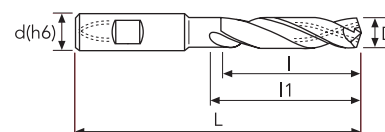
373HGA

P	M	K	N	S	H
★		★			
★	☆	★			

373GA

373HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	373GA EDP No.	Stock	373HGA EDP No.	Stock
10,8	+0.007/+0.025	12	40	55	102	373GA1080	●	373HGA1080	●
10,9	+0.007/+0.025	12	40	55	102	373GA1090	●	373HGA1090	●
11,0	+0.007/+0.025	12	40	55	102	373GA1100	●	373HGA1100	●
11,1	+0.007/+0.025	12	40	55	102	373GA1110	●	373HGA1110	●
11,2	+0.007/+0.025	12	40	55	102	373GA1120	●	373HGA1120	●
11,3	+0.007/+0.025	12	40	55	102	373GA1130	●	373HGA1130	●
11,4	+0.007/+0.025	12	40	55	102	373GA1140	●	373HGA1140	●
11,5	+0.007/+0.025	12	40	55	102	373GA1150	●	373HGA1150	●
11,6	+0.007/+0.025	12	40	55	102	373GA1160	●	373HGA1160	●
11,7	+0.007/+0.025	12	40	55	102	373GA1170	●	373HGA1170	●
11,8	+0.007/+0.025	12	40	55	102	373GA1180	●	373HGA1180	●
11,9	+0.007/+0.025	12	40	55	102	373GA1190	●	373HGA1190	●
12,0	+0.007/+0.025	12	40	55	102	373GA1200	●	373HGA1200	●
12,1	+0.007/+0.025	14	43	60	107	373GA1210	○	373HGA1210	●
12,2	+0.007/+0.025	14	43	60	107	373GA1220	●	373HGA1220	●
12,3	+0.007/+0.025	14	43	60	107	373GA1230	○		
12,4	+0.007/+0.025	14	43	60	107	373GA1240	○		
12,5	+0.007/+0.025	14	43	60	107	373GA1250	●	373HGA1250	●
12,6	+0.007/+0.025	14	43	60	107	373GA1260	○		
12,7	+0.007/+0.025	14	43	60	107	373GA1270	●	373HGA1270	●
12,8	+0.007/+0.025	14	43	60	107	373GA1280	●	373HGA1280	●
12,9	+0.007/+0.025	14	43	60	107	373GA1290	○		
13,0	+0.007/+0.025	14	43	60	107	373GA1300	●	373HGA1300	●
13,5	+0.007/+0.025	14	43	60	107	373GA1350	●	373HGA1350	●
13,7	+0.007/+0.025	14	43	60	107	373GA1370	●	373HGA1370	○
13,8	+0.007/+0.025	14	43	60	107	373GA1380	●	373HGA1380	○
14,0	+0.007/+0.025	14	43	60	107	373GA1400	●	373HGA1400	●
14,2	+0.007/+0.025	16	45	65	115	373GA1420	●	373HGA1420	●
14,5	+0.007/+0.025	16	45	65	115	373GA1450	●	373HGA1450	●
14,7	+0.007/+0.025	16	45	65	115	373GA1470	●	373HGA1470	○
14,8	+0.007/+0.025	16	45	65	115	373GA1480	●	373HGA1480	●
15,0	+0.007/+0.025	16	49	65	115	373GA1500	●	373HGA1500	●
15,2	+0.007/+0.025	16	49	65	115	373GA1520	●	373HGA1520	●
15,3	+0.007/+0.025	16	49	65	115	373GA1530	●	373HGA1530	●
15,5	+0.007/+0.025	16	49	65	115	373GA1550	●	373HGA1550	●
15,7	+0.007/+0.025	16	49	65	115	373GA1570	●	373HGA1570	○
15,8	+0.007/+0.025	16	49	65	115	373GA1580	●	373HGA1580	●
16,0	+0.007/+0.025	16	49	65	115	373GA1600	●	373HGA1600	●
16,5	+0.007/+0.025	18	52	73	123	373GA1650	●	373HGA1650	●

● stock standard ○ non-standard stock

373GA-HGA

General application, Weldon shank

3XD

DIN
6537K



MG
PV400



373GA 373HGA



373GA

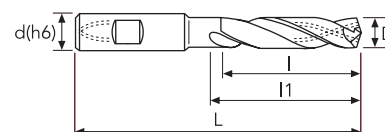


373HGA

P	M	K	N	S	H
★		★			
★	☆	★			

373GA
373HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	373GA EDP No.	Stock	373HGA EDP No.	Stock
16,8	+0.007/+0.025	18	52	73	123	373GA1680	○	373HGA1680	○
17,0	+0.007/+0.025	18	52	73	123	373GA1700	●	373HGA1700	●
17,5	+0.007/+0.025	18	52	73	123	373GA1750	●	373HGA1750	●
17,7	+0.007/+0.025	18	52	73	123	373GA1770	○	373HGA1770	○
17,8	+0.007/+0.025	18	52	73	123	373GA1780	○	373HGA1780	○
18,0	+0.007/+0.025	18	52	73	123	373GA1800	●	373HGA1800	●
18,5	+0.008/+0.029	20	55	79	131	373GA1850	●	373HGA1850	●
18,8	+0.008/+0.029	20	55	79	131	373GA1880	○	373HGA1880	○
19,0	+0.008/+0.029	20	55	79	131	373GA1900	●	373HGA1900	●
19,5	+0.008/+0.029	20	55	79	131	373GA1950	●	373HGA1950	●
19,8	+0.008/+0.029	20	55	79	131	373GA1980	○	373HGA1980	○
20,0	+0.008/+0.029	20	55	79	131	373GA2000	●	373HGA2000	●

● stock standard ○ non-standard stock

CUTTING PARAMETERS

373GA

 Ø RUN OUT <0.02mm	Material Group ISO 513	P1	P2	P3 P4	P5 P6	P7	P8
	Hardness/Rm	<500 N/mm ²	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1480 N/mm ²		
	Vc (m/min)	70÷90	60÷80	60÷80	50÷70	40÷60	35÷55
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
	3	0.143	0.143	0.124	0.105	0.076	0.057
	4	0.143	0.143	0.124	0.105	0.076	0.057
	6	0.181	0.181	0.162	0.133	0.114	0.095
	8	0.209	0.209	0.190	0.152	0.133	0.124
	10	0.209	0.209	0.190	0.152	0.133	0.124
	12	0.266	0.266	0.219	0.181	0.171	0.171
	14	0.304	0.304	0.238	0.209	0.190	0.190
	16	0.304	0.304	0.238	0.209	0.190	0.190
	18	0.361	0.361	0.285	0.228	0.228	0.228
	20	0.361	0.361	0.285	0.228	0.228	0.228

373HGA

 Ø RUN OUT <0.02mm	Material Group ISO 513	P1	P2	P3 P4	P5 P6	P7	P8
	Hardness/Rm	<500 N/mm ²	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1480 N/mm ²		
	Vc (m/min)	90÷110	70÷90	70÷90	50÷70	50÷70	40÷60
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
	3	0.150	0.150	0.130	0.110	0.080	0.060
	4	0.150	0.150	0.130	0.110	0.080	0.060
	6	0.190	0.190	0.170	0.140	0.120	0.100
	8	0.220	0.220	0.200	0.160	0.140	0.130
	10	0.220	0.220	0.200	0.160	0.140	0.130
	12	0.280	0.280	0.230	0.190	0.180	0.180
	14	0.320	0.320	0.250	0.220	0.200	0.200
	16	0.320	0.320	0.250	0.220	0.200	0.200
	18	0.380	0.380	0.300	0.240	0.240	0.240
	20	0.380	0.380	0.300	0.240	0.240	0.240

373HGA

 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	50÷70	35÷55			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.080	0.060	0.060			
	4	0.100	0.080	0.080			
	6	0.120	0.080	0.080			
	8	0.130	0.100	0.100			
	10	0.150	0.110	0.110			
	12	0.170	0.130	0.130			
	14	0.180	0.130	0.130			
	16	0.200	0.140	0.140			
	18	0.220	0.140	0.140			
	20	0.240	0.160	0.160			

CUTTING PARAMETERS

373GA

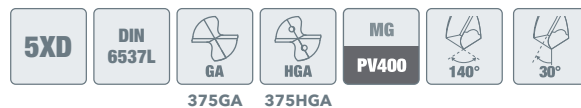
	Material Group ISO 513	K1	K2	K3			
	Hardness/Rm	150÷250 HB	150÷350 HB	120÷260 HB			
	Vc (m/min)	90÷110	70÷90	60÷80			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.162	0.143	0.086			
	4	0.190	0.162	0.095			
	6	0.238	0.190	0.124			
	8	0.257	0.238	0.152			
	10	0.285	0.266	0.190			
	12	0.314	0.285	0.209			
	14	0.342	0.314	0.228			
	16	0.380	0.333	0.247			
	18	0.399	0.361	0.266			
	20	0.428	0.380	0.266			

373HGA

	Material Group ISO 513	K1	K2	K3			
	Hardness/Rm	150÷250 HB	150÷350 HB	120÷260 HB			
	Vc (m/min)	110÷130	90÷110	70÷90			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.170	0.150	0.090			
	4	0.200	0.170	0.100			
	6	0.250	0.200	0.130			
	8	0.270	0.250	0.160			
	10	0.300	0.280	0.200			
	12	0.330	0.300	0.220			
	14	0.360	0.330	0.240			
	16	0.400	0.350	0.260			
	18	0.420	0.380	0.280			
	20	0.450	0.400	0.280			

375GA-HGA

General application, Weldon shank



375GA



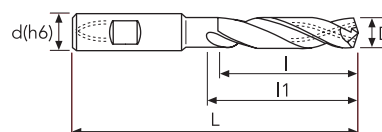
375HGA

P	M	K	N	S	H
★		★			
★	☆	★			

★ 1st choice ☆ suitable

375GA

375HGA

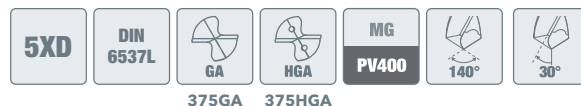


D	D Tol.	d(h5)	l	l1	L	375GA EDP No.	Stock	375HGA EDP No.	Stock
3,0	+0.004/+0.016	6	23	28	66	375GA0300	●	375HGA0300	●
3,1	+0.004/+0.016	6	23	28	66	375GA0310	●	375HGA0310	●
3,2	+0.004/+0.016	6	23	28	66	375GA0320	●	375HGA0320	●
3,3	+0.004/+0.016	6	23	28	66	375GA0330	●	375HGA0330	●
3,4	+0.004/+0.016	6	23	28	66	375GA0340	●	375HGA0340	●
3,5	+0.004/+0.016	6	23	28	66	375GA0350	●	375HGA0350	●
3,6	+0.004/+0.016	6	23	28	66	375GA0360	●	375HGA0360	●
3,7	+0.004/+0.016	6	23	28	66	375GA0370	●	375HGA0370	●
3,8	+0.004/+0.016	6	29	36	74	375GA0380	●	375HGA0380	●
3,9	+0.004/+0.016	6	29	36	74	375GA0390	●	375HGA0390	●
4,0	+0.004/+0.016	6	29	36	74	375GA0400	●	375HGA0400	●
4,1	+0.004/+0.016	6	29	36	74	375GA0410	●	375HGA0410	●
4,2	+0.004/+0.016	6	29	36	74	375GA0420	●	375HGA0420	●
4,3	+0.004/+0.016	6	29	36	74	375GA0430	●	375HGA0430	●
4,4	+0.004/+0.016	6	29	36	74	375GA0440	●	375HGA0440	●
4,5	+0.004/+0.016	6	29	36	74	375GA0450	●	375HGA0450	●
4,6	+0.004/+0.016	6	29	36	74	375GA0460	●	375HGA0460	●
4,7	+0.004/+0.016	6	29	36	74	375GA0470	●	375HGA0470	●
4,8	+0.004/+0.016	6	35	44	82	375GA0480	●	375HGA0480	●
4,9	+0.004/+0.016	6	35	44	82	375GA0490	●	375HGA0490	●
5,0	+0.004/+0.016	6	35	44	82	375GA0500	●	375HGA0500	●
5,1	+0.004/+0.016	6	35	44	82	375GA0510	●	375HGA0510	●
5,2	+0.004/+0.016	6	35	44	82	375GA0520	●	375HGA0520	●
5,3	+0.004/+0.016	6	35	44	82	375GA0530	●	375HGA0530	●
5,4	+0.004/+0.016	6	35	44	82	375GA0540	●	375HGA0540	●
5,5	+0.004/+0.016	6	35	44	82	375GA0550	●	375HGA0550	●
5,6	+0.004/+0.016	6	35	44	82	375GA0560	●	375HGA0560	●
5,7	+0.004/+0.016	6	35	44	82	375GA0570	●	375HGA0570	●
5,8	+0.004/+0.016	6	35	44	82	375GA0580	●	375HGA0580	●
5,9	+0.004/+0.016	6	35	44	82	375GA0590	●	375HGA0590	●
6,0	+0.004/+0.016	6	35	44	82	375GA0600	●	375HGA0600	●
6,1	+0.006/+0.021	8	43	53	91	375GA0610	●	375HGA0610	●
6,2	+0.006/+0.021	8	43	53	91	375GA0620	●	375HGA0620	●
6,3	+0.006/+0.021	8	43	53	91	375GA0630	●	375HGA0630	●
6,4	+0.006/+0.021	8	43	53	91	375GA0640	●	375HGA0640	●
6,5	+0.006/+0.021	8	43	53	91	375GA0650	●	375HGA0650	●
6,6	+0.006/+0.021	8	43	53	91	375GA0660	●	375HGA0660	●
6,7	+0.006/+0.021	8	43	53	91	375GA0670	●	375HGA0670	●
6,8	+0.006/+0.021	8	43	53	91	375GA0680	●	375HGA0680	●

● stock standard ○ non-standard stock

375GA-HGA

General application, Weldon shank



375GA



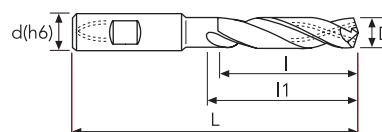
375HGA

P	M	K	N	S	H
★		★			
★	☆	★			

★ 1st choice ☆ suitable

375GA

375HGA



D	D Tol.	d(h5)	l	l1	L	375GA EDP No.	Stock	375HGA EDP No.	Stock
6,9	+0.006/+0.021	8	43	53	91	375GA0690	●	375HGA0690	●
7,0	+0.006/+0.021	8	43	53	91	375GA0700	●	375HGA0700	●
7,1	+0.006/+0.021	8	43	53	91	375GA0710	●	375HGA0710	●
7,2	+0.006/+0.021	8	43	53	91	375GA0720	●	375HGA0720	●
7,3	+0.006/+0.021	8	43	53	91	375GA0730	●	375HGA0730	●
7,4	+0.006/+0.021	8	43	53	91	375GA0740	●	375HGA0740	●
7,5	+0.006/+0.021	8	43	53	91	375GA0750	●	375HGA0750	●
7,6	+0.006/+0.021	8	43	53	91	375GA0760	●	375HGA0760	●
7,7	+0.006/+0.021	8	43	53	91	375GA0770	●	375HGA0770	●
7,8	+0.006/+0.021	8	43	53	91	375GA0780	●	375HGA0780	●
7,9	+0.006/+0.021	8	43	53	91	375GA0790	●	375HGA0790	●
8,0	+0.006/+0.021	8	43	53	91	375GA0800	●	375HGA0800	●
8,1	+0.006/+0.021	10	49	61	103	375GA0810	●	375HGA0810	●
8,2	+0.006/+0.021	10	49	61	103	375GA0820	●	375HGA0820	●
8,3	+0.006/+0.021	10	49	61	103	375GA0830	●	375HGA0830	●
8,4	+0.006/+0.021	10	49	61	103	375GA0840	●	375HGA0840	●
8,5	+0.006/+0.021	10	49	61	103	375GA0850	●	375HGA0850	●
8,6	+0.006/+0.021	10	49	61	103	375GA0860	●	375HGA0860	●
8,7	+0.006/+0.021	10	49	61	103	375GA0870	●	375HGA0870	●
8,8	+0.006/+0.021	10	49	61	103	375GA0880	●	375HGA0880	●
8,9	+0.006/+0.021	10	49	61	103	375GA0890	●	375HGA0890	●
9,0	+0.006/+0.021	10	49	61	103	375GA0900	●	375HGA0900	●
9,1	+0.006/+0.021	10	49	61	103	375GA0910	●	375HGA0910	●
9,2	+0.006/+0.021	10	49	61	103	375GA0920	●	375HGA0920	●
9,3	+0.006/+0.021	10	49	61	103	375GA0930	●	375HGA0930	●
9,4	+0.006/+0.021	10	49	61	103	375GA0940	●	375HGA0940	●
9,5	+0.006/+0.021	10	49	61	103	375GA0950	●	375HGA0950	●
9,6	+0.006/+0.021	10	49	61	103	375GA0960	●	375HGA0960	●
9,7	+0.006/+0.021	10	49	61	103	375GA0970	●	375HGA0970	●
9,8	+0.006/+0.021	10	49	61	103	375GA0980	●	375HGA0980	●
9,9	+0.006/+0.021	10	49	61	103	375GA0990	●	375HGA0990	●
10,0	+0.006/+0.021	10	49	61	103	375GA1000	●	375HGA1000	●
10,1	+0.007/+0.025	12	52	71	118	375GA1010	●	375HGA1010	●
10,2	+0.007/+0.025	12	52	71	118	375GA1020	●	375HGA1020	●
10,3	+0.007/+0.025	12	52	71	118	375GA1030	●	375HGA1030	●
10,4	+0.007/+0.025	12	52	71	118	375GA1040	●	375HGA1040	●
10,5	+0.007/+0.025	12	52	71	118	375GA1050	●	375HGA1050	●
10,6	+0.007/+0.025	12	52	71	118	375GA1060	●	375HGA1060	●
10,7	+0.007/+0.025	12	52	71	118	375GA1070	●	375HGA1070	●

● stock standard ○ non-standard stock

375GA-HGA

General application, Weldon shank

5XD

DIN
6537L

375GA 375HGA



375GA



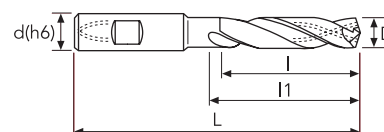
375HGA

P	M	K	N	S	H
★		★			
★	☆	★			

375GA

375HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	375GA EDP No.	Stock	375HGA EDP No.	Stock
10,8	+0.007/+0.025	12	52	71	118	375GA1080	●	375HGA1080	●
10,9	+0.007/+0.025	12	52	71	118	375GA1090	●	375HGA1090	●
11,0	+0.007/+0.025	12	52	71	118	375GA1100	●	375HGA1100	●
11,1	+0.007/+0.025	12	52	71	118	375GA1110	●	375HGA1110	●
11,2	+0.007/+0.025	12	52	71	118	375GA1120	●	375HGA1120	●
11,3	+0.007/+0.025	12	52	71	118	375GA1130	●	375HGA1130	●
11,4	+0.007/+0.025	12	52	71	118	375GA1140	●	375HGA1140	●
11,5	+0.007/+0.025	12	52	71	118	375GA1150	●	375HGA1150	●
11,6	+0.007/+0.025	12	52	71	118	375GA1160	●	375HGA1160	●
11,7	+0.007/+0.025	12	52	71	118	375GA1170	●	375HGA1170	●
11,8	+0.007/+0.025	12	52	71	118	375GA1180	●	375HGA1180	●
11,9	+0.007/+0.025	12	52	71	118	375GA1190	●	375HGA1190	●
12,0	+0.007/+0.025	12	52	71	118	375GA1200	●	375HGA1200	●
12,1	+0.007/+0.025	14	63	77	124			375HGA1210	●
12,2	+0.007/+0.025	14	63	77	124			375HGA1220	●
12,3	+0.007/+0.025	14	63	77	124			375HGA1230	●
12,4	+0.007/+0.025	14	63	77	124			375HGA1240	●
12,5	+0.007/+0.025	14	63	77	124	375GA1250	●	375HGA1250	●
12,6	+0.007/+0.025	14	63	77	124			375HGA1260	●
12,7	+0.007/+0.025	14	63	77	124			375HGA1270	●
12,8	+0.007/+0.025	14	63	77	124			375HGA1280	●
13,0	+0.007/+0.025	14	63	77	124	375GA1300	●	375HGA1300	●
13,5	+0.007/+0.025	14	63	77	124	375GA1350	●	375HGA1350	●
13,7	+0.007/+0.025	14	63	77	124			375HGA1370	●
13,8	+0.007/+0.025	14	63	77	124			375HGA1380	●
13,9	+0.007/+0.025	14	63	77	124			375HGA1390	●
14,0	+0.007/+0.025	14	63	77	124	375GA1400	●	375HGA1400	●
14,1	+0.007/+0.025	16	67	83	133			375HGA1410	●
14,2	+0.007/+0.025	16	67	83	133			375HGA1420	●
14,5	+0.007/+0.025	16	67	83	133	375GA1450	●	375HGA1450	●
14,7	+0.007/+0.025	16	67	83	133			375HGA1470	●
14,8	+0.007/+0.025	16	67	83	133			375HGA1480	●
15,0	+0.007/+0.025	16	67	83	133	375GA1500	●	375HGA1500	●
15,1	+0.007/+0.025	16	67	83	133			375HGA1510	●
15,2	+0.007/+0.025	16	67	83	133			375HGA1520	●
15,3	+0.007/+0.025	16	67	83	133			375HGA1530	●
15,5	+0.007/+0.025	16	67	83	133	375GA1550	●	375HGA1550	●
15,7	+0.007/+0.025	16	67	83	133			375HGA1570	●
15,8	+0.007/+0.025	16	67	83	133			375HGA1580	●

● stock standard ○ non-standard stock

375GA-HGA

General application, Weldon shank

5XD

DIN
6537L

375GA



375HGA

MG
PV400

140°



30°



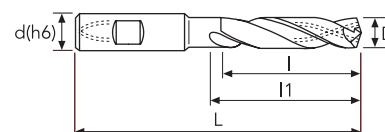
375GA



375HGA

P	M	K	N	S	H	
★		★				375GA
★	☆	★				375HGA

★ 1st choice ☆ suitable



D	D Tol.	d(h5)	l	l1	L	375GA EDP No.	Stock	375HGA EDP No.	Stock
16,0	+0.007/+0.025	16	67	83	133	375GA1600	●	375HGA1600	●
16,5	+0.007/+0.025	18	75	93	143	375GA1650	●	375HGA1650	●
16,8	+0.007/+0.025	18	75	93	143			375HGA1680	○
17,0	+0.007/+0.025	18	75	93	143	375GA1700	●	375HGA1700	●
17,5	+0.007/+0.025	18	75	93	143	375GA1750	●	375HGA1750	●
17,7	+0.007/+0.025	18	75	93	143			375HGA1770	○
17,8	+0.007/+0.025	18	75	93	143			375HGA1780	○
18,0	+0.007/+0.025	18	75	93	143	375GA1800	●	375HGA1800	●
18,5	+0.008/+0.029	20	81	101	153	375GA1850	●	375HGA1850	●
18,8	+0.008/+0.029	20	81	101	153			375HGA1880	○
19,0	+0.008/+0.029	20	81	101	153	375GA1900	●	375HGA1900	●
19,5	+0.008/+0.029	20	81	101	153	375GA1950	●	375HGA1950	●
19,8	+0.008/+0.029	20	81	101	153			375HGA1980	○
20,0	+0.008/+0.029	20	81	101	153	375GA2000	●	375HGA2000	●

● stock standard ○ non-standard stock

CUTTING PARAMETERS

375GA

 Ø RUN OUT <0.02mm	Material Group ISO 513	P1	P2	P3 P4	P5 P6	P7	P8
	Hardness/Rm	<500 N/mm ²	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1480 N/mm ²		
	Vc (m/min)	70÷90	60÷80	60÷80	50÷70	40÷60	35÷55
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
	3	0.143	0.143	0.124	0.105	0.076	0.057
	4	0.143	0.143	0.124	0.105	0.076	0.057
	6	0.181	0.181	0.162	0.133	0.114	0.095
	8	0.209	0.209	0.190	0.152	0.133	0.124
	10	0.209	0.209	0.190	0.152	0.133	0.124
	12	0.266	0.266	0.219	0.181	0.171	0.171
	14	0.304	0.304	0.238	0.209	0.190	0.190
	16	0.304	0.304	0.238	0.209	0.190	0.190
	18	0.361	0.361	0.285	0.228	0.228	0.228
	20	0.361	0.361	0.285	0.228	0.228	0.228

375HGA

 Ø RUN OUT <0.02mm	Material Group ISO 513	P1	P2	P3 P4	P5 P6	P7	P8
	Hardness/Rm	<500 N/mm ²	500÷700 N/mm ²	600÷1000 N/mm ²	900÷1480 N/mm ²		
	Vc (m/min)	90÷110	70÷90	70÷90	50÷70	50÷70	40÷60
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)
	3	0.150	0.150	0.130	0.110	0.080	0.060
	4	0.150	0.150	0.130	0.110	0.080	0.060
	6	0.190	0.190	0.170	0.140	0.120	0.100
	8	0.220	0.220	0.200	0.160	0.140	0.130
	10	0.220	0.220	0.200	0.160	0.140	0.130
	12	0.280	0.280	0.230	0.190	0.180	0.180
	14	0.320	0.320	0.250	0.220	0.200	0.200
	16	0.320	0.320	0.250	0.220	0.200	0.200
	18	0.380	0.380	0.300	0.240	0.240	0.240
	20	0.380	0.380	0.300	0.240	0.240	0.240

375HGA

 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	50÷70	35÷55			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.080	0.060	0.060			
	4	0.100	0.080	0.080			
	6	0.120	0.080	0.080			
	8	0.130	0.100	0.100			
	10	0.150	0.110	0.110			
	12	0.170	0.130	0.130			
	14	0.180	0.130	0.130			
	16	0.200	0.140	0.140			
	18	0.220	0.140	0.140			
	20	0.240	0.160	0.160			

CUTTING PARAMETERS

375GA

	Material Group ISO 513	K1	K2	K3			
	Hardness/Rm	150÷250 HB	150÷350 HB	120÷260 HB			
	Vc (m/min)	90÷110	70÷90	60÷80			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.162	0.143	0.086			
	4	0.190	0.162	0.095			
	6	0.238	0.190	0.124			
	8	0.257	0.238	0.152			
	10	0.285	0.266	0.190			
	12	0.314	0.285	0.209			
	14	0.342	0.314	0.228			
	16	0.380	0.333	0.247			
	18	0.399	0.361	0.266			
	20	0.428	0.380	0.266			

375HGA

	Material Group ISO 513	K1	K2	K3			
	Hardness/Rm	150÷250 HB	150÷350 HB	120÷260 HB			
	Vc (m/min)	110÷130	90÷110	70÷90			
	D (mm)	fn (mm/rev)	fn (mm/rev)	fn (mm/rev)			
	3	0.170	0.150	0.090			
	4	0.200	0.170	0.100			
	6	0.250	0.200	0.130			
	8	0.270	0.250	0.160			
	10	0.300	0.280	0.200			
	12	0.330	0.300	0.220			
	14	0.360	0.330	0.240			
	16	0.400	0.350	0.260			
	18	0.420	0.380	0.280			
	20	0.450	0.400	0.280			

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