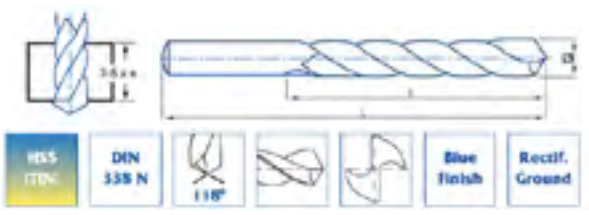


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ดอกสว่านก้านกลมไฮสปีด / ไททาเนียม
Straight Shank Twist Drills. Jobber Series

Ø mm. H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TITN
0.20	19	2.5	27223	
0.25	19	3	17993	
0.30	19	3	17996	
0.35	19	4	17999	
0.40	20	5	18002	
0.45	20	5	18005	
0.50	22	6	18008	
0.55	24	7	18011	
0.60	24	7	18014	
0.65	26	8	18017	
0.70	28	9	18020	
0.75	28	9	18023	
0.80	30	10	18026	
0.85	30	10	18029	
0.90	32	11	18032	
0.95	32	11	18035	
1.00	34	12	10001	18305
1.05	34	12	18038	
1.10	36	14	10004	15056
0.15	36	14	18041	
1.20	38	16	10007	18308
1.25	38	16	10010	27087
1.30	38	16	10013	18311
1.35	40	18	18050	
1.40	40	18	10016	27337
1.45	40	18	18053	
1.50	40	18	10019	18314
1.55	43	20	18059	
1.60	43	20	10022	18317
1.65	43	20	18062	
1.70	43	20	10025	18320
1.75	46	22	10028	18323
1.80	46	22	10031	18326
1.85	46	22	18068	
1.90	46	22	10034	18329
1.95	49	24	18071	
2.00	49	24	10037	18332
2.05	49	24	18074	
2.10	49	24	10040	18335
2.15	53	27	18077	
2.20	53	27	10043	18338
2.25	53	27	10046	18341
2.30	53	27	10049	18344
2.35	53	27	18080	
2.40	57	30	10052	18347
2.45	57	30	18083	
2.50	57	30	10055	18350
2.55	57	30	18086	
2.60	57	30	10058	18353
2.65	57	30	18089	
2.70	61	33	10061	27166
2.75	61	33	10064	18356
2.80	61	33	10067	18359
2.85	61	33	18092	
2.90	61	33	10070	27088
2.95	61	33	18095	
3.00	61	33	10073	18362
3.05	65	36	18098	
3.10	65	36	10076	18365
3.15	65	36	27343	29078
3.20	65	36	10079	18368
3.25	65	36	10082	18371
3.30	65	36	10085	18374
3.35	65	36	27345	
3.40	70	39	10088	27322
3.45	70	39	27346	

Ø mm. H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TITN
3.50	70	39	10091	18377
3.55	70	39	18101	
3.60	70	39	10094	27328
3.65	70	39	18104	
3.70	70	39	10097	18380
3.75	70	43	10100	18383
3.80	75	43	10103	18386
3.85	75	43	18107	
3.90	75	43	10106	27165
3.95	75	43	18110	
4.00	75	43	10109	18389
4.05	75	43	27349	
4.10	75	43	10112	18392
4.15	75	43	27350	
4.20	75	43	10115	18395
4.25	75	43	10118	18398
4.30	80	47	10121	18401
4.35	80	47	18113	
4.40	80	47	10124	18404
4.45	80	47	18116	
4.50	80	47	10127	18407
4.55	80	47	27288	
4.60	80	47	10130	18410
4.65	80	47	27352	
4.70	80	47	10133	18413
4.75	80	47	10136	18416
4.80	86	52	10139	18419
4.85	86	52	18119	
4.90	86	52	10142	18422
4.95	86	52	18122	
5.00	86	52	10145	18425
5.05	86	52	18125	
5.10	86	52	10148	18428
5.15	86	52	27330	
5.20	86	52	10151	18431
5.25	86	52	10154	18434
5.30	86	52	10157	18437
5.35	93	57	18137	
5.40	93	57	10160	27292
5.45	93	57	27354	
5.50	93	57	10163	18440
5.55	93	57	27356	
5.60	93	57	10166	18443
5.65	93	57	18134	
5.70	93	57	10169	18446
5.75	93	57	10172	18449
5.80	93	57	10175	18452
5.85	93	57	27357	
5.90	93	57	10178	18455
5.95	93	57	27358	
6.00	93	57	10181	18458
6.05	101	63	27359	
6.10	101	63	10184	18461
6.15	101	63	27360	
6.20	101	63	10187	18464
6.25	101	63	10190	18467
6.30	101	63	10193	27324
6.35	101	63	27361	
6.40	101	63	10196	18470
6.45	101	63	18137	
6.50	101	63	10199	18473
6.55	101	63	18140	
6.60	101	63	10202	18476
6.65	101	63	27362	
6.70	101	63	10205	27333
6.75	109	69	10208	18479



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ดอกสว่านก้านกลมไฮสปีด / โททาเนียม
Straight Shank Twist Drills. Jobber Series



Ø mm.H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TIN
6.80	109	69	10211	18482
6.85	109	69	18143	
6.90	109	69	10214	18485
6.95	109	69	27316	
7.00	109	69	10217	18488
7.05	109	69	27363	
7.10	109	69	10220	18491
7.15	109	69	27364	
7.20	109	69	10223	18494
7.25	109	69	10226	18497
7.30	109	69	10229	18500
7.35	109	69	27365	
7.40	109	69	10232	27150
7.45	109	69	27366	
7.50	109	69	10235	18503
7.55	117	75	27369	
7.60	117	75	10238	27313
7.65	117	75	27368	
7.70	117	75	10241	18506
7.75	117	75	10244	27272
7.80	117	75	10247	18509
7.85	117	75	27370	
7.90	117	75	10250	18512
7.95	117	75	27372	
8.00	117	75	10253	18515
8.05	117	75	27373	
8.10	117	75	10256	26675
8.15	117	75	27374	
8.20	117	75	10259	26678
8.25	117	75	10262	18518
8.30	117	75	10265	27311
8.40	117	75	27376	
8.45	117	75	10268	26681
8.50	117	75	27377	
8.55	125	81	10271	18521
8.60	125	81	27378	
8.65	125	81	10274	18524
8.70	125	81	27379	
8.75	125	81	10277	18527
8.80	125	81	10280	18530
8.85	125	81	10283	18533
8.90	125	81	27381	
8.95	125	81	10286	18536
9.00	125	81	27383	
9.05	125	81	10289	18539
9.10	125	81	27382	
9.15	125	81	10292	26684
9.20	125	81	27385	
9.25	125	81	10295	27553
9.30	125	81	10298	27273
9.35	125	81	10301	18542
9.40	125	81	10304	27149
9.45	125	81	27387	
9.50	125	81	10307	18545
9.55	133	87	27389	
9.60	133	87	10310	26687
9.65	133	87	27390	
9.70	133	87	10313	27151
9.75	133	87	10316	18548
9.80	133	87	10319	18551
9.85	133	87	27391	
9.90	133	87	10322	18554
9.95	133	87	27393	
10.00	133	87	10325	18557
10.10	133	87	10328	

Ø mm. H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TIN
10.20	133	87	10331	
10.25	133	87	10334	27274
10.30	133	87	10337	29151
10.40	133	87	10340	
10.50	133	87	10343	18563
10.60	133	87	1036	29154
10.70	142	94	10349	
10.75	142	94	10352	27277
10.80	142	94	10355	29157
10.90	142	94	10358	
11.00	142	94	10361	18566
11.10	142	94	10364	
11.20	142	94	10367	
11.25	142	94	10370	26801
11.30	142	94	10373	
11.40	142	94	10376	
11.50	142	94	10379	18569
11.60	142	94	10382	
11.70	142	94	10385	
11.75	142	94	10388	27275
11.80	142	94	10391	
11.90	151	101	10394	
12.00	151	101	10397	18572
12.10	151	101	10400	29169
12.20	151	101	10403	
12.25	151	101	10406	18578
12.30	151	101	10409	
12.40	151	101	10412	
12.50	151	101	10415	18581
12.60	151	101	10418	
12.70	151	101	10421	
12.75	151	101	10424	27276
12.80	151	101	10427	
12.90	151	101	10430	
13.00	151	101	10433	18584
13.10	151	101	10436	
13.20	151	101	18164	
13.25	160	108	10439	29180
13.30	160	108	18167	
13.40	160	108	18170	
13.50	160	108	10442	29184
13.60	160	108	18173	
13.70	160	108	10445	
13.75	160	108	10448	
13.80	160	108	18176	
13.90	160	108	10451	
14.00	160	108	10454	29007
14.10	169	114	18179	
14.20	169	114	18185	
14.25	169	114	10457	29194
14.30	169	114	18188	
14.40	169	114	18191	
14.50	169	114	10460	29198
14.60	169	114	18194	
14.70	169	114	18197	
14.75	169	114	10463	29202
14.80	169	114	18200	
14.90	169	114	18203	
15.00	169	114	10466	29205
15.20	178	120	18209	
15.25	178	120	10469	29209
15.50	178	120	10475	29213
15.60	178	120	18218	
15.70	178	120	18221	
15.75	178	120	10475	
15.80	178	120	18224	



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ดอกสว่านก้านกลมไฮสปีด / ไททาเนียม
Straight Shank Twist Drills. Jobber Series



ดอกสว่าน HSS



ดอกสว่าน TIN

Ø mm. H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TIN
15.90	178	120	18227	
16.00	178	120	10478	29220
16.20	184	125	27289	
16.25	184	125	10481	
16.50	184	125	10484	
16.75	184	125	10487	
16.80	184	125	27676	
17.00	184	125	10490	
17.25	191	130	10493	
17.50	191	130	10496	

Ø mm. H8	L mm.	I mm.	Nº Art. HSS	Nº Art. TIN
17.75	191	130	10499	
18.00	191	130	10502	
18.25	198	135	10505	
18.50	198	135	10508	
18.75	198	135	10511	
19.00	198	135	10514	
19.25	205	140	10517	
19.50	205	140	10520	
19.75	205	140	10523	
20.00	205	140	10526	

1070

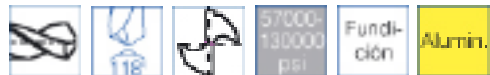
ดอกสว่านก้านกลมไฮสปีด / ไททาเนียม
Straight Shank Twist Drills. Jobber Series



ดอกสว่าน HSS



ดอกสว่าน TIN



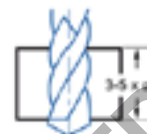
Diam. Ø Size	Corte Flute	OAL	Nº Art. HSS	Nº Art. TIN
1/64	3/16	3/4	21239	13913
1/32	1/2	1 3/8	21242	13914
3/64	3/4	1 3/4	12926	13919
1/16	7/8	1 7/8	12938	13922
5/64	1	2	12956	13925
3/32	1 1/4	2 1/4	12977	13931
7/64	1 1/2	2 5/8	12998	13934
1/8	1 5/8	2 3/4	13016	13940
9/64	1 3/4	2 7/8	13025	13942
5/32	2	3 1/8	13043	13948
11/64	2 1/8	3 1/4	13061	13952
3/16	2 5/16	3 1/2	13079	13957
13/64	2 7/16	3 5/8	13100	13960
7/32	2 1/2	3 3/4	13115	13964
15/64	2 5/8	3 7/8	13127	13967
1/4	2 3/4	4	13139	13970
17/64	2 7/8	4 1/8	13151	13973
9/32	2 15/16	4 1/4	13163	13977
19/64	3 1/16	4 3/8	13172	13978
5/16	3 3/16	4 1/2	13178	13980
21/64	3 5/16	4 7/8	13187	13982
11/32	3 7/16	5	13196	13985
23/64	3 1/2	5 1/8	13205	13988
3/8	3 5/8	5 1/4	13211	13990
25/64	3 3/4	5 3/8	13220	13992
13/32	3 7/8	5 1/2	13232	13995
27/64	3 15/16	5 5/8	13238	13996
7/16	4 1/16	5 3/4	13241	13997
29/64	4 3/16	5 7/8	13244	13998

Diam. Ø Siz	Corte Flute	OAL	Nº Art. HSS	Nº Art. TIN
15/32	4 5/16	6	13247	13999
31/64	4 3/8	6 5/8	13250	14000
1/2	4 1/2	6 5/8	13253	14001
33/64	4 13/16	6 5/8	13256	
17/32	4 13/16	6 5/8	13259	
35/64	4 13/16	6 5/8	13319	
9/16	4 13/16	6 5/8	13265	
37/64	4 13/16	6 5/8	13268	
19/32	5 3/16	7 1/8	13271	
39/64	5 3/16	7 1/8	13274	
5/8	5 3/16	7 1/8	13277	
41/64	5 3/16	7 1/8	13280	
21/32	5 3/16	7 1/8	13283	
43/64	5 5/8	7 5/8	21278	
11/16	5 5/8	7 5/8	12839	
45/64	5 5/8	9 1/2	21281	
23/32	5 5/8	9 1/2	21287	
47/64	5 5/8	9 3/4	13320	
3/4	5 7/8	9 3/4	13289	
25/32	6	9 7/8	10803	
13/16	6 1/8	10	13292	
27/32	6 1/8	10	21293	
7/8	6 1/8	10	13295	
29/32	6 1/8	10	13322	
59/64	6 1/8	10 3/4	25919	
15/16	6 1/8	10 3/4	13323	
31/32	6 3/8	11	25610	
1	6 3/8	11	13301	



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ดอกสว่านก้านกลมไฮสปีด (สีขาว)
Straight Shank Twist Drills. Jobber Series



Ømm. H8	L mm.	I mm.	Nº Art. HSS
1.00	34	12	17673
1.10	36	14	10650
1.20	38	16	10656
1.30	38	16	10662
1.40	40	18	10663
1.50	40	18	10666
1.60	43	20	10669
1.70	43	0	10670
1.80	46	22	10672
1.90	46	22	10674
2.00	49	24	10675
2.10	49	24	10677
2.20	53	27	13596
2.25	53	27	10679
2.30	53	27	13608
2.40	57	30	10683
2.50	57	30	10684
2.60	57	30	10685
2.70	61	33	10686
2.75	61	33	10687
2.80	61	33	10690
2.90	61	33	10692
3.00	61	33	10693
3.10	65	36	10695
3.20	65	36	10696
3.25	65	36	10698
3.30	65	36	10699
3.40	70	39	10701
3.50	70	39	10702
3.60	70	39	10704
3.70	70	39	10705
3.75	70	39	10708
3.80	75	43	10710
3.90	75	43	10719
4.00	75	43	10770
4.10	75	43	10774
4.20	75	43	10776
4.25	75	43	10777
4.30	80	47	10779
4.40	80	47	10780
4.50	80	47	10780
4.60	80	47	10783
4.70	80	47	10786
4.75	80	47	10787
4.80	86	52	10789
4.90	86	52	10792
5.00	86	52	10793
5.10	86	52	10795
5.20	86	52	10797
5.25	86	52	10798
5.30	86	52	10799
5.40	93	57	10800
5.50	93	57	10801
5.60	93	57	10802
5.70	93	57	10804
5.75	93	57	10807
5.80	93	57	10808
5.90	93	57	10810
6.00	93	57	10811
6.10	101	63	10813
6.20	101	63	10814
6.25	101	63	10815
6.30	101	63	10816
6.40	101	63	10819
6.50	101	63	10822
6.60	101	63	11145

Ømm. H8	L mm.	I mm.	Nº Art. HSS
6.70	101	63	11154
6.75	109	63	11157
6.80	109	69	11163
6.90	109	69	11166
7.00	109	69	11172
7.10	109	69	11175
7.20	109	69	1118
7.25	109	69	11184
7.30	109	69	11190
7.40	109	69	11202
7.50	109	69	11217
7.60	117	75	11220
7.70	117	75	11226
7.75	117	75	11229
7.80	117	75	11230
7.90	117	75	11251
8.00	117	75	11668
8.10	117	75	11226
8.20	117	75	11287
8.25	117	75	11290
8.30	117	75	11297
8.40	117	75	11302
8.50	117	75	11303
8.60	125	81	11304
8.70	125	81	11305
8.75	125	81	11306
8.80	125	81	11307
8.90	125	81	11308
9.00	125	81	11310
9.10	125	81	11311
9.20	125	81	11312
9.25	125	81	11313
9.30	125	81	11315
9.40	125	81	11316
9.50	125	81	11317
9.60	133	87	11318
9.70	133	87	11319
9.75	133	87	11321
9.80	133	87	11322
9.90	133	87	11323
10.00	133	87	11324
10.10	133	87	22341
10.20	133	87	17648
10.30	133	87	17506
10.50	133	87	1713
10.70	142	94	22342
11.00	142	94	13783
11.50	142	94	17609
11.70	142	94	13657
12.00	151	101	17611
12.30	151	101	22343
12.50	151	101	17615
12.70	151	101	17081
13.00	151	101	16556
13.50	160	108	22833
14.00	160	108	19224
14.50	169	114	24941
15.00	169	114	19227
16.00	178	120	22306
3.60	70	39	10704
3.70	70	39	10705
3.75	70	39	10708
3.80	75	43	10710
3.90	75	43	10719
9.20	125	81	11312



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ดอกสว่านก้านกลมโคบอลท์
Straight Shank Twist Drills. Jobber Series



Ømm. H8	L mm.	I mm.	N° Art. 5% Co
1.00	34	12	27309
1.10	36	14	20107
1.20	38	16	28861
1.25	38	16	20112
1.30	38	16	20116
1.40	40	18	20125
1.50	40	18	27170
1.60	43	20	20133
1.70	43	20	20142
1.75	46	22	20146
1.80	46	22	20151
1.90	46	22	20155
2.00	49	24	19247
2.10	49	24	20161
2.20	53	27	20166
2.25	53	27	20170
2.30	53	27	20175
2.40	57	30	20184
2.50	57	30	19251
2.60	57	30	20199
2.70	61	33	20203
2.75	61	33	19262
2.80	61	33	20209
2.90	61	33	20214
3.00	61	33	19256
3.10	65	36	20220
3.20	65	36	20221
3.25	65	36	19266
3.30	65	36	20220
3.40	70	39	20224
3.50	70	39	19259
3.60	70	39	20230
3.70	70	39	20235
3.75	70	39	19268
3.80	75	43	20241
3.90	75	43	20245
4.00	75	43	19269
4.10	75	43	19265
4.20	75	43	20269
4.25	75	43	19271
4.30	80	47	20278
4.40	80	47	20283
4.50	80	47	13274
4.60	80	47	2029
4.70	80	47	20293
4.75	80	47	2029
4.80	86	52	20302
4.90	86	52	20311
5.00	86	52	19277
5.10	86	52	20320
5.20	86	52	20328
5.25	86	52	19280
5.30	86	52	20340
5.40	93	57	20349
5.50	93	57	49290
5.60	93	57	20361
5.70	93	57	20370
5.75	93	57	20979
5.80	93	57	20388
5.90	93	57	20397
6.00	93	57	19301
6.10	101	63	20415
6.20	101	63	20424
6.25	101	63	20433
6.30	101	63	20442
6.40	101	63	27290
6.50	101	63	20466
6.60	101	63	20475
6.70	101	63	20481

Ømm. H8	L mm.	I mm.	N° Art. 5% Co
6.75	109	69	20488
6.80	109	69	20493
6.90	109	69	19305
7.00	109	69	20499
7.10	109	69	20503
7.20	109	69	20508
7.25	109	69	20512
7.30	109	69	20517
7.40	109	69	19292
7.50	109	69	20523
7.60	117	75	20527
7.70	117	75	20532
7.75	117	75	20536
7.80	117	75	20541
7.90	117	75	20208
8.00	117	75	22734
8.10	117	75	22737
8.20	117	75	22740
8.25	117	75	22743
8.30	117	75	22746
8.40	117	75	19298
8.50	117	75	22752
8.60	125	81	22755
8.70	125	81	22758
8.75	125	81	22761
8.80	125	81	22764
8.90	125	81	2058
9.00	125	81	22768
9.10	125	81	22771
9.20	125	81	22774
9.25	125	81	22777
9.30	125	81	22780
9.40	125	81	50545
9.50	125	81	22784
9.60	133	87	23567
9.70	133	87	26697
9.80	133	87	26809
9.90	133	87	27121
10.00	133	87	27291
10.10	133	87	27318
10.20	133	87	27541
10.25	133	87	27544
10.30	133	87	27585
10.40	133	87	27682
10.50	133	87	27685
10.60	142	94	27690
10.70	142	94	27693
10.75	142	94	27696
10.80	142	94	27699
10.90	142	94	27702
11.00	142	94	27705
11.10	142	94	27708
11.20	142	94	27711
11.25	142	94	27714
11.30	142	94	27717
11.40	142	94	27720
11.50	142	94	19307
11.60	142	94	27724
11.70	142	94	27727
11.75	142	94	27730
11.80	142	94	27733
11.90	151	101	27736
12.00	151	101	19311
12.10	151	101	27742
12.20	151	101	27745
12.25	151	101	19313
12.30	151	101	27749
12.40	151	101	27752
12.50	151	101	27755



1016

ดอกสว่านก้านกลมโคบอลต์
Straight Shank Twist Drills. Jobber Series



Ømm. H8	L mm.	I mm.	Nº Art. 5% Co
12.60	151	101	27758
12.70	151	101	27761
12.75	151	101	19316
12.80	151	101	27765
12.90	151	101	27768
13.00	151	101	27771
13.25	160	108	27777
13.50	160	108	27774
13.75	160	108	27780
14.00	160	108	27783
14.25	169	114	27786
14.50	169	114	27789
14.75	169	114	27792

Ømm. H8	L mm.	I mm.	Nº Art. 5% Co
15.00	169	114	27795
15.25	178	120	27798
15.50	178	120	27801
15.75	178	120	27804
16.00	178	120	27807
16.50	184	125	27811
17.00	184	125	27814
17.50	191	130	27817
18.00	191	130	27820
18.50	198	135	27823
19.00	198	135	27826
19.50	205	140	27829
20.00	205	140	27832

1030

ดอกสว่านก้านกลมไฮสปีด (ชนิดยาว)
Straight Shank Twist Drills. Jobber Series



Ømm. H8	L mm.	I mm.	Nº Art. HSS
0.50	32	12	26656
0.60	35	15	26658
0.70	42	21	19467
0.80	46	25	24592
0.90	51	29	26659
1.00	56	33	11573
1.10	60	37	11576
1.20	65	41	11579
1.25	65	41	11582
1.30	65	41	11585
1.40	70	45	11588
1.50	70	45	11591
1.60	76	50	11594
1.70	76	50	11597
1.75	80	53	11600
1.80	80	53	11603
1.90	80	53	11606
2.00	85	56	11609
2.10	85	56	11612
2.20	90	56	11615
2.25	90	59	11618
2.30	90	59	11621
2.40	95	59	11624
2.50	95	62	11627
2.60	95	62	11630
2.70	100	62	11633
2.75	100	66	11636
2.80	100	66	11639
2.90	100	66	11642
3.00	100	66	11645
3.10	106	69	11648
3.20	106	69	11651
3.25	106	69	11654
3.30	106	69	11657
3.40	112	73	11660
3.50	112	73	11663
3.60	112	73	11666
3.70	112	73	11669
3.75	112	73	11672
3.80	119	78	11675
3.90	119	78	11678
4.00	119	78	11681
4.10	119	78	11684
4.20	119	78	11687
4.25	119	78	11690

Ømm. H8	L mm.	I mm.	Nº Art. HSS
4.30	126	82	11693
4.40	126	82	11696
4.50	126	82	11699
4.60	126	82	11702
4.70	126	82	19955
4.75	126	82	11705
4.80	132	87	11708
4.90	132	87	11711
5.00	132	87	11714
5.10	132	87	11717
5.20	132	87	11720
2.25	132	87	11723
5.30	132	87	11726
5.40	139	91	11729
5.50	139	91	11732
5.60	139	91	11735
5.70	139	91	11738
5.75	139	91	11741
5.80	139	91	11744
5.90	139	91	11747
6.00	139	91	11750
6.10	148	97	11753
6.20	148	97	11756
6.25	148	97	11759
6.30	148	97	11762
6.40	148	97	11765
6.50	148	97	11768
6.60	148	97	11771
6.70	148	97	11774
6.75	156	102	11777
6.80	156	102	11780
6.90	156	102	11783
7.00	156	102	11786
7.10	156	102	11789
7.20	156	102	11792
7.25	156	102	11795
7.30	156	102	11798
7.40	156	102	11801
7.50	156	102	11804
7.60	165	109	11807
7.70	165	109	11810
7.75	165	109	11813
7.80	165	109	11816
7.90	165	109	11819
8.00	165	109	11822



1030

ดอกสว่านก้านกลมไฮสปีด (ชนิดยาว)
Straight Shank Twist Drills. Jobber Series



Ømm. H8	L mm.	I mm.	Nº Art. HSS
8.10	165	109	11825
8.20	165	109	11828
8.25	165	109	11831
8.30	165	109	11834
8.40	165	109	11837
8.50	165	109	11840
8.60	175	115	11843
8.70	175	115	11846
8.75	175	115	11849
8.80	175	115	11852
8.90	175	115	11855
9.00	175	115	11858
9.10	175	115	11861
9.20	175	115	11864
9.25	175	115	11867
9.30	175	115	11870
9.40	175	115	11873
9.50	175	115	11876
9.60	184	121	11879
9.70	184	121	11882
9.75	184	121	11885
9.80	184	121	11888
9.90	184	121	11891
10.00	184	121	11894
10.20	184	121	11900
10.25	184	121	11903
10.50	184	121	11912
10.75	195	128	11921
10.80	195	128	1124
11.00	195	128	11930
11.25	195	128	11939
11.50	195	128	11948
11.75	195	128	11957
11.80	195	128	11960
11.90	195	128	11963
12.00	205	134	11966
12.20	205	134	11972
12.25	205	134	11975
12.30	205	134	11978
12.50	205	134	11984
12.75	205	134	11993
13.00	205	134	12002
13.25	214	140	12005
13.50	214	140	12008
13.75	214	140	12011
14.00	214	140	12014
14.25	220	144	12017
14.50	220	144	12020
14.75	220	144	12023
15.00	220	144	12026
15.25	227	149	12029
15.50	227	149	12032
15.75	227	149	12035
16.00	227	149	12038
16.25	235	154	12041
16.50	235	154	12044
16.75	235	154	12047
17.00	235	154	12050
17.25	241	158	12023
17.50	241	158	12056
17.75	241	158	12059
18.00	241	158	12062
18.25	241	158	12065
18.50	247	162	12068
19.00	247	162	12074
19.50	254	162	12080
19.75	254	162	12083
20.00	254	162	12086

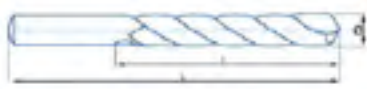
Ømm. H8	L mm.	I mm.	Nº Art. HSS
8.10	165	109	11825
8.20	165	109	11828
8.25	165	109	11831
8.30	165	109	11834
8.40	165	109	11837
8.50	165	109	11840
8.60	175	115	11843
8.70	175	115	11846
8.75	175	115	11849
8.80	175	115	11852
8.90	175	115	11855
9.00	175	115	11858
9.10	175	115	11861
9.20	175	115	11864
9.25	175	115	11867
9.30	175	115	11870
9.40	175	115	11873
9.50	175	115	11876
9.60	184	121	11879
9.70	184	121	11882
9.75	184	121	11885
9.80	184	121	11888
9.90	184	121	11891
10.00	184	121	11894
10.20	184	121	11900
10.25	184	121	11903
10.50	184	121	11912
10.75	195	128	11921
10.80	195	128	1124
11.00	195	128	11930
11.25	195	128	11939
11.50	195	128	11948
11.75	195	128	11957
11.80	195	128	11960
11.90	195	128	11963
12.00	205	134	11966
12.20	205	134	11972
12.25	205	134	11975
12.30	205	134	11978
12.50	205	134	11984
12.75	205	134	11993
13.00	205	134	12002
13.25	214	140	12005
13.50	214	140	12008
13.75	214	140	12011
14.00	214	140	12014
14.25	220	144	12017
14.50	220	144	12020
14.75	220	144	12023
15.00	220	144	12026
15.25	227	149	12029
15.50	227	149	12032
15.75	227	149	12035
16.00	227	149	12038
16.25	235	154	12041
16.50	235	154	12044
16.75	235	154	12047
17.00	235	154	12050
17.25	241	158	12023
17.50	241	158	12056
17.75	241	158	12059
18.00	241	158	12062
18.25	241	158	12065
18.50	247	162	12068
19.00	247	162	12074
19.50	254	162	12080
19.75	254	162	12083
20.00	254	162	12086



1040

ดอกสว่านก้านกลมไฮสปีด (ชนิดยาวพิเศษ)

Straight shank twist drills. Long & extra long series



Ømm. H8	L mm.	I mm.	Nº Art. HSS
2.00	125	85	12158
2.50	140	95	12161
3.00	150	100	12164
3.00	190	136	12167
3.50	165	115	12170
3.50	210	145	12173
3.50	265	180	12176
4.00	175	120	12179
4.00	220	150	12182
4.00	280	190	12185
4.50	185	125	12188
4.50	235	160	12191
4.50	295	200	12194
5.00	195	135	12197
5.00	245	170	12200
5.00	315	210	12203
5.50	205	140	12206
5.50	260	180	12209
5.50	330	225	12212
6.00	205	140	12215
6.00	260	180	12218
6.00	330	225	12221
6.50	215	150	12224
6.50	275	190	12227



Ømm. H8	L mm.	I mm.	Nº Art. HSS
6.50	350	235	12230
7.00	225	155	12233
7.00	290	200	12236
7.00	370	250	12239
7.50	225	155	12242
7.50	290	200	12245
7.50	370	250	12248
8.00	240	165	12251
8.00	305	210	12254
8.00	390	265	12257
8.50	240	165	12260
8.50	305	210	12263
8.50	390	265	12266
9.00	250	175	12269
9.00	320	220	12272
9.00	410	280	12275
9.50	250	175	12278
9.50	320	220	12281
9.50	410	280	12284
10.00	265	185	12287
10.00	340	235	12290
10.00	430	295	12293
11.00	280	195	28866
12.00	295	205	28867

1370

ดอกเจาะนำศูนย์ไฮสปีด
HSS Center drill



Size Ø Diam.	Body Ø Cuerpo	Drill Ø Broca	OAL	Nº Art. HSS
0	1/32	1/32	1 1/8	43940
1	1/8	3/64	1 1/4	40054
2	3/16	5/64	1 7/8	40056
3	1/4	7/64	2	40059
4	5/16	1/8	2 1/8	40060

Size Ø Diam.	Body Ø Cuerpo	Drill Ø Broca	OAL	Nº Art. HSS
5	7/16	3/16	2 3/4	40250
6	1/2	7/32	3	40253
7	5/8	1/4	3 1/4	40062
8	3/4	5/16	3 1/2	40064

1320

ดอกเจาะนำศูนย์ไฮสปีด
HSS Center drill



Size Ø Diam.	Body Ø Cuerpo	Drill Ø Broca	OAL	Nº Art. Cobalt
1.00	x 3.15	31.50	3.00	40091
1.25	x 3.15	31.50	3.35	40094
1.25	x 4.00	35.50	3.75	40097
1.60	x 4.00	37.50	4.25	40100
1.60	x 5.00	40.00	4.75	40103
2.00	x 5.00	42.00	5.30	40106
2.00	x 6.30	45.00	6.00	40109
2.50	x 6.30	47.00	6.70	40112
2.50	x 8.00	50.00	7.50	40115
3.15	x 8.00	52.00	8.50	40118

Size Ø Diam.	Body Ø Cuerpo	Drill Ø Broca	OAL	Nº Art. Cobalt
3.15	x 10.00	56.00	9.50	40121
4.00	x 10.00	56.00	10.60	40124
4.00	x 12.50	63.00	11.80	40127
5.00	x 12.50	66.00	13.20	40130
5.00	x 16.00	71.00	15.00	40133
6.30	x 16.00	74.00	17.00	40136
6.30	x 20.00	80.00	19.00	40139
8.00	x 20.00	80.00	21.20	40142
10.00	x 25.00	100.00	31.50	40145
12.50	x 31.50	125.00	33.50	40148



1110

ดอกสว่านก้านเดเปอร์ (ไฮสปีด)

Morse taper shank twist drills. Jobber series



Ømm. H8	L mm.	I mm.	CM	N ² Art.HSS
5.00	133	52	1	14426
5.25	133	52	1	14429
5.50	138	57	1	14432
5.75	138	57	1	14435
6.00	144	57	1	14438
6.25	144	63	1	14441
6.50	150	63	1	14444
6.75	150	69	1	14447
7.00	150	69	1	14450
7.25	150	69	1	14453
7.50	156	69	1	14456
7.75	156	75	1	14459
8.00	156	75	1	14462
8.25	156	75	1	14465
8.50	162	75	1	14468
8.75	162	81	1	14471
9.00	162	81	1	14474
9.25	162	81	1	14477
9.50	162	81	1	14480
9.75	168	87	1	14483
10.00	168	87	1	14486
10.25	168	87	1	14489
10.35	168	87	1	22318
10.50	168	87	1	14492
10.75	175	94	1	14495
11.00	175	94	1	14498
11.25	175	94	1	14501
11.50	175	94	1	14504
11.75	175	94	1	14507
12.00	182	101	1	14510
12.25	182	101	1	14513
12.50	182	101	1	14516
12.75	182	101	1	14519
13.00	182	101	1	14522
13.25	189	108	1	14525
13.50	189	108	1	14528
13.75	189	108	1	14531
14.00	189	108	1	14534
14.25	212	114	2	14537
14.50	212	114	2	14540
14.75	212	114	2	14543
15.00	212	114	2	14546
15.25	218	120	2	14549
15.50	218	120	2	14552
15.75	218	120	2	14555
16.00	218	120	2	14558
16.25	223	125	2	14564
16.50	223	125	2	14564
16.75	223	125	2	14567
17.00	223	125	2	14570
17.25	228	130	2	14573
17.50	228	130	2	14576
17.75	228	130	2	14579
18.00	228	130	2	14582
18.25	233	135	2	14585
18.50	233	135	2	14588
18.75	233	135	2	14591
19.00	233	135	2	14594
19.25	238	140	2	14597
19.50	238	140	2	14600
19.75	238	140	2	14603
20.00	238	140	2	14606
20.25	243	145	2	14609
20.50	243	145	2	14612
20.75	243	145	2	14615

Ømm. H8	L mm.	I mm.	CM	N ² Art.HSS
22.00	248	150	2	14630
22.25	248	150	2	14633
22.50	253	155	2	14636
22.75	253	155	2	14639
23.00	253	155	2	14642
23.25	276	155	3	14645
23.50	276	155	3	14648
23.75	281	160	3	14651
24.00	281	160	3	14654
24.25	281	160	3	14657
24.50	281	160	3	14660
24.75	281	160	3	14663
25.00	281	160	3	14666
25.25	286	165	3	14669
25.50	286	165	3	14672
25.75	286	165	3	14675
26.00	286	165	3	14678
26.25	286	165	3	14681
26.50	286	165	3	14684
26.75	291	170	3	14687
27.00	291	170	3	14690
27.25	291	170	3	14693
27.50	291	170	3	14696
27.75	291	170	3	14699
28.00	291	170	3	14702
28.25	296	175	3	14705
28.50	296	175	3	14708
28.75	296	175	3	14711
29.00	296	175	3	14714
29.25	296	175	3	14717
29.50	296	175	3	14720
29.75	296	175	3	14723
30.00	296	175	3	14726
30.25	301	180	3	14729
30.50	301	180	3	14732
30.75	301	180	3	14735
31.00	301	180	3	14738
31.25	301	180	3	14741
31.50	301	180	3	14744
31.75	306	185	3	14747
32.00	334	185	4	14750
32.50	334	185	4	14753
33.00	334	185	4	14756
33.50	334	185	4	14759
34.00	339	185	4	14762
34.50	339	185	4	14765
35.00	339	185	4	14768
35.50	339	185	4	14771
36.00	344	195	4	14774
36.50	344	195	4	14777
37.00	344	195	4	14780
37.50	344	195	4	14783
38.00	349	200	4	14786
38.50	349	200	4	14789
39.00	349	200	4	14792
39.50	349	200	4	14795
40.00	349	200	4	14798
40.50	345	205	4	14801
41.00	345	205	4	14804
41.50	345	205	4	14807
42.00	345	205	4	14810
42.50	345	205	4	14813
43.00	359	210	4	14816
43.50	359	210	4	14819
44.00	359	210	4	14822



1110

ดอกสว่านก้านเตเปอร์ (ไฮสปีด)

Morse taper shank twist drills. Jobber series



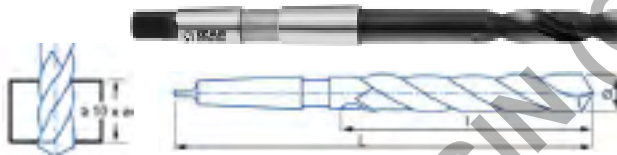
Ømm. H8	L mm.	I mm.	CM	Nº Art.HSS
45.00	359	210	4	14828
45.50	364	215	4	14831
46.00	364	215	4	14834
46.50	364	215	4	14837
47.00	364	215	4	14840
47.50	364	215	4	14843
48.00	369	220	4	14846
48.50	369	220	4	14849
49.00	369	220	4	14852
49.50	369	220	4	14855
50.00	369	220	4	14858
51.00	412	225	5	14864
52.00	412	225	5	14867
53.00	412	225	5	14870
54.00	417	230	5	14873
55.00	417	230	5	14876

Ømm. H8	L mm.	I mm.	CM	Nº Art.HSS
56.00	417	230	5	14879
57.00	422	235	5	14882
58.00	422	235	5	14885
59.00	422	235	5	14888
60.00	422	235	5	14891
61.00	427	240	5	14894
62.00	427	240	5	14897
63.00	427	240	5	14900
64.00	432	245	5	14903
65.00	432	245	5	14906
66.00	432	245	5	14909
67.00	432	245	5	14912
68.00	437	250	5	14915
69.00	437	250	5	14918
70.00	437	250	5	14921

1140

ดอกสว่านไฮสปีด ก้านเตเปอร์ยาวพิเศษ

Morse taper shank twist drills. Extra long series



Ømm. H8	L mm.	I mm.	CM	Nº Art. HSS
8.00	265	165	1	15440
8.50	265	165	1	15446
9.00	275	175	1	15452
9.50	275	175	1	15458
10.00	285	185	1	15464
10.50	285	185	1	15470
11.00	300	195	1	15476
11.50	300	195	1	15482
12.00	310	205	1	15488
12.50	310	205	1	15494
13.00	310	205	1	15500
13.50	325	220	1	15506
14.00	325	220	1	15512
14.50	340	220	2	15518
15.00	340	220	2	15524
15.50	355	230	2	15530
16.00	355	230	2	15536
16.50	355	230	2	15542
17.00	355	230	2	15548
17.50	370	245	2	15554
18.00	370	245	2	15560
18.50	370	245	2	15566
19.00	370	245	2	15572
19.50	385	260	2	15578
20.00	385	260	2	15584
20.50	385	260	2	15590
21.00	385	270	2	15596
21.50	405	270	2	15602
22.00	405	270	2	15608
22.50	405	270	2	15614
23.00	405	270	2	15620
23.50	425	270	3	15626
24.00	440	290	3	15632

Ømm. H8	L mm.	I mm.	CM	Nº Art. HSS
24.50	440	290	3	15638
25.00	440	290	3	15644
25.50	440	290	3	15650
26.00	440	290	3	15656
26.50	440	290	3	15662
27.00	460	305	3	15668
27.50	460	305	3	15674
28.00	460	305	3	15680
28.50	460	305	3	15686
29.00	460	305	3	15692
29.50	460	305	3	15698
30.00	460	305	3	15704
31.00	505	320	3	15710
32.00	505	320	4	15716
33.00	530	320	4	15722
34.00	530	340	4	15728
35.00	530	340	4	15734
36.00	530	340	4	15740
37.00	530	340	4	15746
38.00	555	360	4	15752
39.00	555	360	4	15758
40.00	555	360	4	15764
41.00	555	360	4	15770
42.00	555	360	4	15776
43.00	585	385	4	15782
44.00	585	385	4	15788
45.00	585	385	4	15794
46.00	585	385	4	15800
47.00	585	385	4	15806
48.00	605	405	4	15812
49.00	605	405	4	15818
50.00	605	405	4	15724



2010

Hand reamers



Hole Tol. Agujero H7

Grupo 1 Sub-gr. 1.1

HSS

DIN 206 B

ISO 236

Tol. H7



Grupo 6 Sub-gr. 6.3

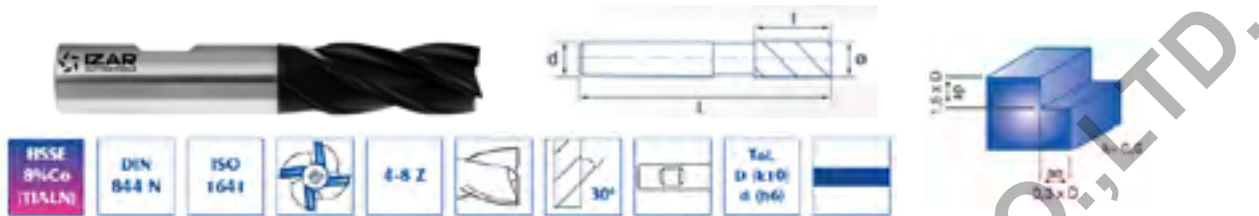
Ød mm.	Ø d1 mm =Rº	L mm.	I mm.	Nº Art. HSS
1.60	44	21	1.25	74178
1.70	44	21	1.25	74181
1.80	47	23	1.40	74184
1.90	47	23	1.40	74187
2.00	50	25	1.60	40379
2.10	50	25	1.60	74190
2.20	54	27	1.80	74193
2.30	54	27	1.80	74196
2.40	58	29	2.10	74199
2.50	58	29	2.10	40382
2.60	58	29	2.10	75397
2.70	62	31	2.10	74202
2.80	62	31	2.10	74205
2.90	62	31	2.10	74208
3.00	62	31	2.10	40385
3.10	66	33	2.40	74211
3.20	66	33	2.40	74214
3.30	66	33	2.40	74217
3.40	71	35	2.70	74220
3.50	71	35	2.70	40388
3.60	71	35	2.70	74223
3.70	71	35	2.70	74226
3.80	76	38	3.00	75398
3.90	76	38	3.00	74229
4.00	76	38	3.00	40391
4.10	76	38	3.00	74232
4.20	76	38	3.00	74235
4.30	81	41	3.40	74238
4.40	81	41	3.40	74241
4.50	81	41	3.40	40394
4.60	81	41	3.40	74244
4.70	81	41	3.40	74247
4.80	87	44	3.80	74250
4.90	87	44	3.80	74253
5.00	87	44	3.80	40397
5.10	87	44	3.80	74256
5.20	87	44	3.80	74259
5.30	87	44	3.80	74262
5.40	93	47	4.30	74265
5.50	93	47	4.30	40400
5.60	93	47	4.30	74268
5.70	93	47	4.30	74271
5.80	93	47	4.30	74274
5.90	93	47	4.30	74277
6.00	93	47	4.30	40403
6.10	100	50	4.90	74280
6.20	100	50	4.90	75172
6.30	100	50	4.90	74283
6.40	100	50	4.90	74286
6.50	100	50	4.90	40406
6.60	100	50	4.90	75233
6.70	100	50	4.90	74289
6.80	107	54	5.50	74292
6.90	107	54	5.50	74295
7.00	107	54	5.50	40409
7.10	107	54	5.50	74298
7.20	107	54	5.50	74301
7.30	107	54	5.50	74947
7.40	107	54	5.50	74304
7.50	107	54	5.50	40412
7.60	115	58	6.20	74307
7.70	115	58	6.20	74310
7.80	115	58	6.20	74313
7.90	115	58	6.20	74316
8.00	115	58	6.20	40415

Ød mm.	Ø d1 mm =Rº	L mm.	I mm.	Nº Art. HSS
8.10	115	58	6.20	74319
8.20	115	58	6.20	74322
8.30	115	58	6.20	74325
8.40	115	58	6.20	74328
8.50	115	58	6.20	40418
8.60	124	62	7.00	74331
8.70	124	62	7.00	74334
8.80	124	62	7.00	74337
8.90	124	62	7.00	74340
9.00	124	62	7.00	40421
9.10	124	62	7.00	74343
9.20	124	62	7.00	74346
9.30	124	62	7.00	74349
9.40	124	62	7.00	74352
9.50	124	62	7.00	40424
9.60	133	66	8.00	74355
9.70	133	66	8.00	74358
9.80	133	66	8.00	74361
9.90	133	66	8.00	74364
10.00	133	66	8.00	40427
10.10	133	66	8.00	74367
10.20	133	66	8.00	74370
10.30	133	66	8.00	74373
10.40	133	66	8.00	74376
10.50	133	66	8.00	40430
10.60	142	71	8.00	74379
10.70	142	71	9.00	74382
10.80	142	71	9.00	74385
10.90	142	71	9.00	74388
11.00	142	71	9.00	40433
11.10	142	71	9.00	74391
11.20	142	71	9.00	74394
11.30	142	71	9.00	74397
11.40	142	71	9.00	74400
11.50	142	71	9.00	40436
11.60	142	71	9.00	74403
11.70	142	71	9.00	74406
11.80	152	76	9.00	74409
11.90	152	76	10.00	74412
12.00	152	76	10.00	40439
12.50	152	76	10.00	40442
13.00	152	76	10.00	40445
13.50	163	81	11.00	40448
14.00	163	81	11.00	40451
14.50	163	81	11.00	40454
15.00	163	81	11.00	40457
15.50	175	87	12.00	40460
16.00	175	87	12.00	40463
16.50	175	87	12.00	40466
17.00	175	87	12.00	40469
17.50	188	93	14.50	40472
18.00	188	93	14.50	40475
18.50	188	93	14.50	40478
19.00	188	93	14.50	40481
19.50	201	100	16.00	40484
20.00	201	100	16.00	40487
21.00	201	100	16.00	40493
22.00	215	107	18.00	40499
23.00	215	107	18.00	40505
24.00	231	115	20.00	40511
25.00	231	115	20.00	40517
26.00	231	115	20.00	40523
27.00	247	124	22.40	40529
28.00	247	124	22.40	40535
30.00	247	124	22.40	40547



4400

ดอกสว่านไฮสปีด ก้านเตเปอร์ยาวพิเศษ
Morse taper shank twist drills.Extra long series

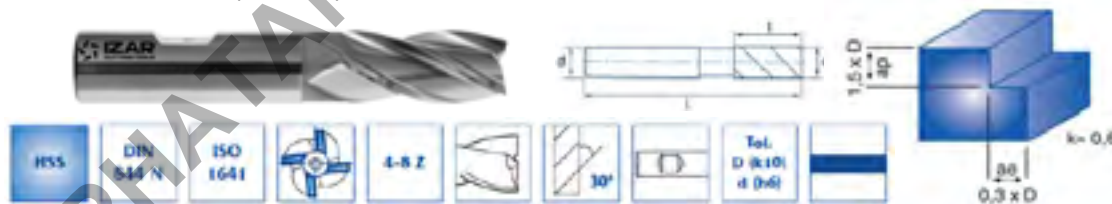


Ø mm.	Ø d mm	L mm.	I mm.	Z	Nº Art.CO 8%
2.00	6	51	7	4	43778
2.50	6	52	8	4	43781
3.00	6	52	8	4	43784
3.50	6	54	10	4	43787
4.00	6	55	11	4	43790
4.50	6	55	11	4	43793
5.00	6	57	13	4	43796
5.50	6	57	13	4	43799
6.00	6	57	13	4	43802
6.50	10	66	16	4	43805
7.00	10	66	16	4	43808
7.50	10	66	16	4	43811
8.00	10	69	19	4	43814
8.50	10	69	19	4	43817
9.00	10	69	19	4	43820
9.50	10	72	19	4	43823
10.00	10	79	22	4	43826
11.00	12	83	22	4	43829
12.00	12	83	26	4	43832
13.00	12	83	26	4	43835

Ø mm.	Ø d mm	L mm.	I mm.	Z	Nº Art.CO 8%
14.00	12	83	26	4	43838
15.00	12	83	26	4	43841
16.00	16	92	32	4	43844
17.00	16	92	32	4	43847
18.00	16	92	32	4	43850
19.00	16	92	32	4	43853
20.00	20	104	38	4	43856
22.00	20	104	38	6	43859
24.00	25	121	45	6	43862
25.00	25	121	45	6	43865
26.00	25	121	45	6	77679
28.00	25	121	45	6	43868
30.00	25	121	45	6	43871
32.00	32	133	53	6	43874
36.00	32	133	53	6	43877
40.00	40	155	63	8	43880

4401

คัตเตอร์กักร่องลิมนสั้น 4-6-8 ฟัน (ไฮสปีด)
Straight shank end mills (Short L) - HSS



Ø mm.	Ød mm	L mm.	I mm.	Z	Nº Art. CO 8%
2.00	6	51	7	4	43691
2.50	6	52	8	4	43694
3.00	6	52	8	4	43697
3.50	6	54	10	4	43700
4.00	6	55	11	4	43703
4.50	6	55	11	4	77567
5.00	6	57	13	4	43706
5.50	6	57	13	4	77568
6.00	6	57	13	4	43709
6.50	10	66	16	4	77569
7.00	10	66	16	4	43712
7.50	10	66	16	4	78894
8.00	10	69	19	4	43715
8.50	10	69	19	4	78895
9.00	10	69	19	4	43718
9.50	10	69	19	4	78896
10.00	10	72	22	4	43721
11.00	12	79	22	4	43724

Ø mm.	Ød mm	L mm.	I mm.	Z	Nº Art. CO 8%
12.00	12	83	26	4	43727
13.00	12	83	26	4	43730
14.00	12	83	26	4	43733
15.00	12	83	26	4	43736
16.00	16	92	32	4	43739
17.00	16	92	32	4	43742
18.00	16	92	32	4	43745
19.00	16	92	32	4	43748
20.00	20	104	38	4	43751
22.00	20	104	38	6	43754
24.00	25	121	45	6	73757
25.00	25	121	45	6	43760
26.00	25	121	45	6	78897
28.00	25	121	45	6	43763
30.00	25	121	45	6	43766
32.00	32	133	53	6	43769
36.00	32	133	53	6	73772
40.00	40	133	63	6	73775



7400

คัตเตอร์กัดทรงกลมสั้น 4-6-8 ฟัน (ไฮสปีด)

Finishing short length several flutes straight shank end mills



Cutter Ø Corte	SHANK Ø Mango	Flute Length L. Corte	OAL	Z	Nº Art. HSS
1/8	3/8	3/8	2.5/16	4	55625
3/16	3/8	1/2	2.3/8	4	55631
7/32	3/8	5/8	2.7/16	4	90003
1/4	3/8	5/8	2.1/2	4	55634
9/32	3/8	3/4	2.1/2	4	90004
5/16	3/8	3/4	2.1/2	4	55637
11/32	3/8	3/4	2.1/2	4	90005
3/8	3/8	3/4	2.1/2	4	55643
13/32	3/8	1	2.11/16	4	90006
7/16	3/8	1	2.11/16	4	15053
1/2	1/2	1.1/4	3 1/4	4	55652
9/16	1/2	1.3/8	3 3/8	4	15060
19/32	1/2	1.3/8	3 3/8	4	15059
5/8	5/8	1.5/8	3 3/4	4	55661
11/16	5/8	1.5/8	3 3/4	4	15061

Cutter Ø Corte	SHANK Ø Mango	Flute Length L. Corte	OAL	Z	Nº Art. HSS
3/4	5/8	1.5/8	3 3/4	4	22788
13/16	3/4	1.7/8	4 1/8	4	15062
7/8	7/8	1.7/8	4 1/8	4	55697
15/16	3/4	1.7/8	4 1/8	4	55703
1	1	2	4 1/2	4	55721
1 1/16	3/4	2	4 1/4	6	22792
1 1/8	1	2	4 1/2	6	55730
1 1/4	1	2	4 1/2	6	55742
1 5/16	3/4	2	4 1/2	6	22794
1 3/8	1	2	4 1/2	6	55754
1 1/2	1	2	4 1/2	6	16690
1 5/8	1 1/4	2	4 1/2	6	22795
1 3/4	1 1/4	2	4 1/2	6	55775
1 7/8	1 1/4	2	4 1/2	6	55778
2	1 1/4	2	4 1/2	6	22796

4421

คัตเตอร์กัดทรงกลม 2 ปาก (ไฮสปีด)

HSS. Slot drills (Short L) - 2 Flute



Ø mm.	Ø d mm	L mm.	I mm.	Nº ART HSS
2.00	6	48	4	44162
2.50	6	49	5	44165
3.00	6	49	5	44168
3.50	6	50	6	44171
4.00	6	51	7	44174
4.50	6	52	8	73802
5.00	6	52	8	44177
5.50	6	52	8	73805
6.00	6	52	8	44180
6.50	10	60	10	73808
7.00	10	60	10	44183
7.50	10	61	11	73811
8.00	10	61	11	44186
8.50	10	61	11	73814
9.00	10	61	11	44189
9.50	10	61	11	73817
10.00	10	63	13	44192
11.00	12	70	13	44195

Ø mm.	Ø d mm	L mm.	I mm.	Nº ART HSS
12.00	12	73	16	44198
13.00	12	73	16	44201
14.00	12	73	16	44204
15.00	12	73	16	44207
16.00	16	79	19	44210
17.00	16	79	19	44213
18.00	16	79	19	44216
19.00	16	79	19	44219
20.00	20	88	22	44222
22.00	20	88	22	44225
24.00	25	102	26	44228
25.00	25	102	26	44231
28.00	25	102	26	44234
30.00	25	102	26	44237
32.00	32	112	32	44240
36.00	32	112	32	44243
40.00	40	130	38	44246

7200

คัตเตอร์กัดทรงกลม 2 ปาก (ไฮสปีด)

HSS. Slot drills (Short L) - 2 Flute



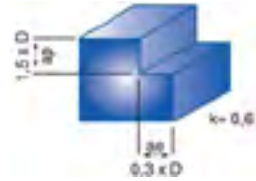
Cutter Ø Corte	SHANK Ø Mango	Flute Length L. Corte	OAL	Z
1/8	3/8	3/8	2.5/16	51923
5/32	3/8	7/16	2.5/16	14532
3/16	3/8	7/16	2.5/16	51935
7/32	3/8	1/2	2.5/16	90001
1/4	3/8	1/2	2.5/16	51944
9/32	3/8	9/16	2.5/16	90002
5/16	3/8	9/16	2.5/16	51950
11/32	3/8	9/16	2.5/16	41971
3/8	3/8	9/16	2.5/16	51956
13/32	3/8	13/16	2.1/2	51976
7/16	3/8	13/16	2.1/2	41979
1/2	1/2	1	3	51971
9/16	1/2	1 1/8	3.1/8	41986
5/8	5/8	1 5/16	3.7/16	51983
11/16	5/8	1 5/16	3.7/16	41992
3/4	5/8	1 5/16	3.7/16	51995

Cutter Ø Corte	SHANK Ø Mango	Flute Length L. Corte	OAL	Z
13/16	3/4	1.1/2	3.3/4	52007
7/8	7/8	1.1/2	3.3/4	52019
15/16	3/4	1.1/2	3.3/4	42005
1	1	1.5/8	4.1/8	52046
1.1/16	3/4	1.5/8	3.7/8	52049
1.1/8	1	1.5/8	4.1/8	45013
1.3/16	3/4	1.5/8	3.7/8	52061
1.1/4	1	1.5/8	4.1/8	52070
1.5/16	3/4	1.5/8	3.7/8	42015
1.3/8	1	1.5/8	4.1/8	52082
1.7/16	3/4	1.5/8	4.1/8	42017
1.1/2	1	1.5/8	4.1/8	52091
1.5/8	1 1/4	1.5/8	4.1/8	52100
1.3/4	1 1/4	1.5/8	4.1/8	52106
1.7/8	1 1/4	1.5/8	4.1/8	52112
2	1 1/4	1.5/8	4.1/8	42020



4400

คัตเตอร์กัดหยาบสั้น (โคบอลท์)
Coarse roughing Rip-R cutter short length

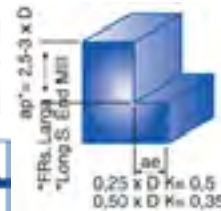


Ø mm.	Ød mm.	L mm.	I mm.	Z	Nº Art. CO 8%
6	6	57	16	4	44663
7	10	66	19	4	66377
8	10	69	19	4	44666
9	10	69	22	4	44669
10	10	72	22	4	44672
11	12	79	26	4	75312
12	12	83	26	4	44675
13	12	83	26	4	66380
14	12	83	26	4	44678
15	12	83	32	4	6383
16	16	92	32	4	44681
17	16	92	32	4	66386

Ø mm.	Ød mm.	L mm.	I mm.	Z	Nº Art. CO 8%
18	16	92	32	4	44684
19	16	92	38	4	66389
20	20	104	38	4	44687
22	20	104	38	5	44690
24	25	121	45	5	44693
25	25	121	45	5	44696
26	25	121	45	5	75315
28	25	121	45	5	44699
30	25	121	45	5	75314
32	32	133	53	6	44702
36	32	133	53	6	77689
40	40	155	63	6	66398

4690

Coarse roughing Nz straight shank end mills (Long L)

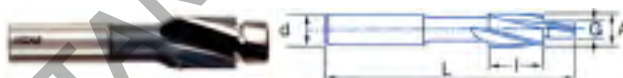


Ø mm.	Ø d mm	L mm.	I mm.	Z	Nº Art. CO 8%
6	6	68	24	4	77784
7	10	80	30	4	77785
8	10	88	38	4	77786
9	10	88	38	4	77787
10	10	95	45	4	46634
11	12	102	45	4	77788
12	12	110	53	4	46637
14	12	110	53	4	46640
16	16	123	63	4	46643

Ø mm.	Ø d mm	L mm.	I mm.	Z	Nº Art. CO 8%
18	16	123	63	4	46646
20	20	141	75	4	46649
22	20	141	75	5	46652
25	25	166	90	5	46655
28	25	166	90	5	45515
30	25	166	90	5	77686
32	32	186	106	6	45518
36	32	186	106	6	77687
40	40	217	125	6	77688

2530

เคาเตอร์บอร์ก้านตรง
Straight shank counterbores



Asiento Metrica	Ø A mm.	Ø G mm	L mm.	I mm.	Ø d mm.	Z	Nº ART HSS
M-3	6	3.20	71	14	5.00	3	42029
M-4	8	4.30	71	14	5.00	3	42032
M-5	10	5.30	80	18	8.00	3	42035
M-6	11	6.40	80	18	8.00	3	45038
M-8	15	8.40	100	22	12.50	3	42041

Asiento Metrica	Ø A mm.	Ø G mm	L mm.	I mm.	Ø d mm.	Z	Nº ART HSS
M-10	18	10.50	100	22	12.50	3	42044
M-12	20	13.00	100	22	12.50	3	42047
M-14	24	15.00	100	22	16.00	4	42050
M-16	26	17.00	100	22	16.00	4	42053

2630

เคาเตอร์บอร์ก้านตรง
Straight shank counterbores



Asiento Metrica	Ø A mm.	Ø G mm	L mm.	I mm.	Ø d mm.	Z	Nº ART HSS
M-8	15	8.40	130	20	3	2	42443
M-10	18	10.50	140	25	3	2	42446
M-12	20	13.00	140	30	3	2	42449
M-14	24	15.00	150	35	4	2	42452
M-16	26	17.00	180	35	4	3	42455
M-18	30	19.00	180	40	4	3	42458
M-20	33	21.00	190	40	4	3	42461
M-22	36	23.00	190	40	4	3	42464
M-24	40	25.00	190	40	4	3	42467



4330

เคาะเตอร์กัดร่องลิ้นหางเหยี่ยว ผสมโคบอลท์ 8%
Dovetail cutters (Cobalt 8%)



HSSE 8%Co (TiAlN)	DIN 1833 A N	ISO 3859	Tol. D (js16) d (h8)	Angular	Grupo 1 Sub-gr. 1.1/1.2	Grupo 3 Sub-gr. 3.1/3.2	Grupo 5 Sub-gr. 5.1/5.2	Grupo 6 Sub-gr. 6.1/2/3
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Ø mm.	Ang.º	Ø d mm.	L mm.	I mm.	Z	Nº Art. CO8%
16	45	12	60	4.00	8	58656
20	45	12	63	5.00	8	58674
25	45	12	67	6.30	10	58701
32	45	16	71	8.00	12	58719
16	60	12	60	6.30	8	58665
20	60	12	63	8.00	8	58683
25	60	12	67	10.00	10	58710
32	60	16	71	12.00	12	58728

4800

เคาะเตอร์กัดร่องลิ้นตัวที ผสมโคบอลท์ 8%
T-Slot cutters (Cobalt 8%)



HSSE 8%Co (TiAlN)	DIN 851 AA N	ISO 3337	Tol. D (d11) d (h8) I (d11)	10º	Grupo 1 Sub-gr. 1.1/1.2	Grupo 3 Sub-gr. 3.1/3.2	Grupo 5 Sub-gr. 5.1/5.2	Grupo 6 Sub-gr. 6.1/2/3
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Ø mm.	Ang.º	Ø d mm.	L mm.	I mm.	Z	Nº Art. CO 8%
11.00	10	53.50	4	6	68868	3,630.00
12.50	10	57.00	6	6	57822	3,780.00
16.00	10	62.00	8	6	57831	4,150.00
18.00	12	70.00	8	8	57840	4,375.00
21.00	12	74.00	9	8	57849	4,820.00
25.00	16	82.00	11	8	57858	5,440.00
32.00	16	90.00	14	10	57867	6,845.00
40.00	25	108.00	18	10	57876	9,490.00

5080

คัตเตอร์กัดมุม ผสมโคบอลท์ 8%
Dovetail cutters (Cobalt 8%)



HSSE 8%Co (TiAlN)	DIN 6518 B N	S. Corta Short L.	Tol. R (H11) d2 (h6)	1/4	Grupo 1 Sub-gr. 1.1/1.2	Grupo 3 Sub-gr. 3.1/3.2	Grupo 5 Sub-gr. 5.1/5.2	Grupo 6 Sub-gr. 6.1/2/3
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Radio	Ø d3 mm.	d1 mm	d2 mm.	L mm.	I mm.	Z	Nº Art. Co 8%
1.00	6	10	10	60		4	77762
1.60	6	10	10	60		4	77763
2.00	6	10	10	60		4	77764
2.50	6	11	10	60	8	4	77765
3.00	6	12	12	60		4	77766
4.00	6	14	12	60	10	4	77767
5.00	6	16	12	60	10	4	77768
6.00	8	20	16	67	12	4	77769
7.00	8	22	16	71	16	4	77770
8.00	8	24	16	71	16	4	77771
8.00	8	26	25	85	18	4	77772
10.00	8	28	25	85	18	4	77773
12.00	10	34	25	90	24	4	77774
12.50	16	41	25	100	28	6	77775
16.00	16	48	25	100	28	6	77776
20.00	16	56	32	112	32	6	77777



1466

ดอกสว่านชุดกล่องเหล็ก ไฮสปีด โคบอลท์ ไททาเนียม
Twist drill sets in metal cases



		Ref	N ² Pcs.	Cont. mm
25271	HSS	1010	19	Ø 1-10 x 0.50
25274	5%Co	1016	19	Ø 1-10 x 0.50
27132	TIN	1010 TIN	19	Ø 1-10 x 0.50
18808	HSS	1013	19	Ø 1-10 x 0.50

1405

ดอกสว่านชุดกล่องเหล็ก ไฮสปีด โคบอลท์ ไททาเนียม
Twist drill sets in metal cases



		Ref	N ² Pcs.	Cont. mm
25272	HSS	1010	50	Ø 1-5.9 x 0.10
10788	5%Co	1016	50	Ø 1-5.9 x 0.10
13154	TIN	1010 TIN	50	Ø 1-5.9 x 0.10

1456

ดอกสว่านชุดกล่องเหล็ก ไฮสปีด โคบอลท์ ไททาเนียม
Twist drill sets in metal cases



		Ref	N ² Pcs.	Cont. mm
25235	HSS	1010	25	Ø 1-10 x 0.50
18370	5%Co	1016	25	Ø 1-10 x 0.50
27133	TIN	1010 TIN	25	Ø 1-10 x 0.50
18807	HSS	1013	25	Ø 1-10 x 0.50

1408

ดอกสว่านชุดกล่องเหล็ก ไฮสปีด โคบอลท์ ไททาเนียม
Twist drill sets in metal cases

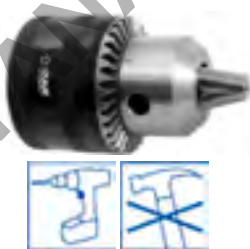


		Ref	N ² Pcs.	Cont. mm
18366	5%Co	1016	25	Ø 6-10 x 0.10
13152	TIN	1010 TIN	25	Ø 1-10 x 0.50

1802

หัวสว่านรูเกลียว
Drill chuck with key

- Ideal portable drills
- Key-lock
- Metal body
- Internal hole



Article No.	ขนาด	รู
16345	1-10	3/8 x 24 UNF
16346	1-10	1/2 x 20 UNF
16347	1.5-13	3/8 x 24 UNF
16348	1.5-13	1/2 x 20 UNF

1807

กุกญแจขันหัวสว่าน



Article No.	D	L	I
16362	6	75	39

