



WD Hearn MACHINE
TOOLS
ESTABLISHED 1937

TOOLING CATALOGUE

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AND METROLOGY EQUIPMENT

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CENTRE DRILLS HSS



PILOT SIZE (mm)	BODY SIZE (mm)
0.7	3.15
0.8	3.15
1	3.15
1.25	3.15
1.6	4
2	5
2.5	6.3
3.15	8
4	10
5	12.5
6.3	16
8	20
10	25

BS CENTRE DRILLS

BS1	3/64 x 1/8"
BS2	1/16 x 3/16"
BS3	3/32 x 1/4"
BS4	1/8 x 5/16"
BS5	3/16 x 7/16"
BS6	1/4 x 5/8"
BS7	5/16 x 3/4"

JOBBER DRILLS HSS



DIA(mm)	OAL(mm)	FL(mm)
0.25	19	3
0.30	19	3
0.35	19	4
0.40	20	5
0.45	20	5
0.50	22	6
0.55	24	27
0.60	24	27
0.65	26	8
0.70	28	9

DIA(mm)	OAL(mm)	FL(mm)
0.75	28	9
0.80	30	10
0.85	30	10
0.90	32	11
0.95	32	11
1	34	12
1.1	36	14
1.2	38	16
1.25	38	16
1.3	38	16
1.4	40	18
1.45	40	18
1.5	40	18
1.6	43	20
1.7	43	20
1.75	46	22
1.8	46	22
1.9	46	22
2	49	24
2.05	49	24
2.1	49	24
2.15	53	27
2.2	53	27
2.3	53	27
2.4	57	30
2.5	57	30
2.6	57	30
2.7	61	33
2.8	61	33
2.9	61	33
3	61	33
3.1	65	36
3.2	65	36
3.3	65	36
3.4	70	39
3.5	70	39
3.6	70	39
3.7	70	39
3.75	70	39
3.8	75	43
3.9	75	43
4	75	43
4.1	75	43
4.2	75	43
4.3	80	47
4.4	80	47
4.5	80	47
4.6	80	47
4.7	80	47
4.8	86	52
4.9	86	52
5	86	52
5.1	86	52
5.2	86	52
5.25	86	52
5.3	86	52

DIA(mm) OAL(mm) FL(mm)

5.4 93 57
5.5 93 57
5.6 93 57
5.7 93 57
5.8 93 57
5.9 93 57
6 93 57
6.1 101 63
6.2 101 63
6.25 101 63
6.3 101 63
6.4 101 63
6.5 101 63
6.6 101 63
6.7 101 63
6.75 109 69
6.8 109 69
6.9 109 69
7 109 69
7.1 109 69
7.2 109 69
7.25 109 69
7.3 109 69
7.4 109 69
7.5 109 69
7.6 117 75
7.7 117 75
7.75 117 75
7.8 117 75
7.9 117 75
8 117 75
8.1 117 75
8.2 117 75
8.25 117 75
8.3 117 75
8.4 117 75
8.5 117 75
8.6 125 81
8.7 125 81
8.75 125 81
8.8 125 81
8.9 125 81
9 125 81
9.1 125 81
9.2 125 81
9.25 125 81
9.3 125 81
9.4 125 81
9.5 125 81
9.6 133 87
9.7 133 87
9.8 133 87
9.9 133 87
10 133 87
10.1 133 87
10.2 133 87

DIA(mm) OAL(mm) FL(mm)

10.25 133 87
10.3 133 87
10.4 133 87
10.5 133 87
10.6 133 87
10.7 142 94
10.75 142 94
10.8 142 94
10.9 142 94
11 142 94
11.1 142 94
11.2 142 94
11.3 142 94
11.4 142 94
11.5 142 94
11.6 142 94
11.7 142 94
11.8 142 94
11.9 151 101
12 151 101
12.1 151 101
12.2 151 101
12.3 151 101
12.4 151 101
12.5 151 101
12.6 151 101
12.7 151 101
12.75 151 101
12.8 151 101
12.9 151 101
13 151 101
13.25 160 108
13.5 160 108
13.6 160 108
13.7 160 108
13.75 160 108
14 160 108
14.25 169 114
14.5 169 114
14.7 169 114
14.75 169 114
15 169 114
15.25 178 120
15.5 178 120
15.75 178 120
16 178 120
16.25 184 125
16.5 184 125
16.6 184 125
16.65 184 125
16.75 184 125
17 184 125
17.25 191 130
17.5 191 130
17.75 191 130
18 191 130

DIA(mm)	OAL(mm)	FL(mm)
18.25	198	135
18.5	198	135
18.75	198	135
19	198	135
19.25	205	140
19.5	205	140
19.75	205	140
20	205	140

STRAIGHT SHANK DRILLS HSS

LONG SERIES



DIA(mm)	OAL(mm)	FL(mm)
1	56	33
1.5	70	45
1.6	76	50
2	85	56
2.5	95	62
3	100	66
4	119	78
4.2	119	78
4.5	126	82
4.8	132	87
5	132	87
5.5	139	91
6	139	91
6.5	148	97
6.8	156	102
7.0	156	102
7.5	156	102
8	165	109
8.5	165	109
9	175	115
9.5	175	115
10	184	121
10.2	184	121
10.5	184	121
10.8	195	128
11	195	128
11.5	195	128
12	205	134
12.5	205	134
13	205	134
14	214	140
15	220	144
16	227	149

EXTRA LONG SERIES



SIZE(mm)	AOL(mm)	FL(mm)
3	160	110
3	200	150
3.5	160	110
3.5	200	150
3.5	250	200
4	160	110
4	200	150
4	250	200
4.5	160	110
4.5	200	150
4.5	250	200
5	160	110
5	200	150
5	250	200
5	300	250
5	350	300
5	400	350
5.5	160	110
5.5	200	150
5.5	250	200
6	160	110
6	200	150
6	250	200
6.5	200	150
6.5	250	200
7	200	150
7	250	200
7	300	250
7	350	300
7	400	350
7.5	200	150
7.5	250	200
8	200	150
8	250	200
8	300	250
8	350	300
8	400	350
8.5	200	150
8.5	250	200
9	200	150
9	250	200
9	300	250
9	350	300
9	400	350
9.5	200	150
9.5	250	200
10	200	150
10	250	200
10	300	250
10	350	300
10	400	350
10.5	250	200
11	250	200
11	300	250
11	350	300
11	400	350

SIZE(mm)	AOL(mm)	FL(mm)
11.5	250	200
12	250	200
12	300	250
12	350	300
12	400	350
12.5	250	200
13	250	200
13	300	250
13	350	300
13	400	350

DRILL SETS HSS/HSS-CO

5 METALDRILL BOX SETS



RANGE (mm)	TYPE	NO.DRILL PER SET
1-13 X 0.5	HSS	25
1-13 X 0.5	HSSCo	25
1-6 X 0.1	HSS	51
6-10 X 0.1	HSS	41

MTS DRILLS HSS



SIZE(mm)	OAL(mm)	FL(mm)	MT
4	124	43	MT1
4.5	128	47	MT1
5	133	52	MT1
5.25	133	52	MT1
5.5	138	57	MT1
5.75	138	57	MT1
6	138	57	MT1
6.25	144	63	MT1
6.5	144	63	MT1
6.75	150	69	MT1

SIZE(mm)	OAL(mm)	FL(mm)	MT
7	150	69	MT1
7.25	150	69	MT1
7.5	150	69	MT1
7.75	156	75	MT1
8	156	75	MT1
8.25	156	75	MT1
8.5	156	75	MT1
8.75	162	81	MT1
9	162	81	MT1
9.25	162	81	MT1
9.5	162	81	MT1
9.75	168	87	MT1
10	168	87	MT1
10.25	168	87	MT1
10.5	168	87	MT1
10.75	175	94	MT1
11	175	94	MT1
11.25	175	94	MT1
11.5	175	94	MT1
11.75	175	94	MT1
12	182	101	MT1
12.25	182	101	MT1
12.5	182	101	MT1
12.75	182	101	MT1
13	182	101	MT1
13.25	189	108	MT1
13.5	189	108	MT1
13.75	189	108	MT1
14	189	108	MT1
14.25	212	114	MT2
14.5	212	114	MT2
14.75	212	114	MT2
15	212	114	MT2
15.25	218	120	MT2
15.5	218	120	MT2
15.75	218	120	MT2
16	218	120	MT2
16.25	223	125	MT2
16.5	223	125	MT2
16.75	223	125	MT2
17	223	125	MT2
17.25	228	130	MT2
17.5	228	130	MT2
17.75	228	130	MT2
18	228	130	MT2
18.25	233	135	MT2
18.5	233	135	MT2
18.75	233	135	MT2
19	233	135	MT2
19.25	238	140	MT2
19.5	238	140	MT2
19.75	238	140	MT2
20	238	140	MT2
20.5	243	145	MT2
20.75	243	145	MT2
21	243	145	MT2

SIZE(mm) OAL(mm) FL(mm) MT

21.5	248	150	MT2
21.75	248	150	MT2
22	248	150	MT2
22.25	248	150	MT2
22.5	253	155	MT2
22.75	253	155	MT2
23	253	155	MT2
23.5	276	155	MT3
23.75	281	160	MT3
24	281	160	MT3
24.5	281	160	MT3
24.75	281	160	160
25	281	160	MT3
25.5	286	165	MT3
26	286	165	MT3
26.5	286	165	MT3
27	291	170	MT3
27.5	291	170	MT3
27.75	291	170	MT3
28	291	170	MT3
28.5	296	175	MT3
29	296	175	MT3
29.5	296	175	MT3
30	296	175	MT3
30.5	301	180	MT3
31	301	180	MT3
31.5	301	180	MT3
32	334	185	MT4
32.5	334	185	MT4
33	334	185	MT4
33.5	334	185	MT4
34	334	190	MT4
34.5	339	190	MT4
35	339	190	MT4
35.5	339	190	MT4
36	344	195	MT4
37	344	195	MT4
37.5	344	195	MT4
38	349	200	MT4
38.5	349	200	MT4
39	349	200	MT4
39.5	349	200	MT4
40	348	200	MT4
40.5	354	205	MT4
41	354	205	MT4
42	354	205	MT4
43	359	210	MT4
43.5	359	210	MT4
44	359	210	MT4
45	359	210	MT4
45.5	359	210	MT4
46	364	215	MT4
47	364	215	MT4
48	369	220	MT4
48.5	369	220	MT4
49	369	220	MT4

SIZE(mm) OAL(mm) FL(mm) MT

50	369	220	MT4
51	412	225	MT5
51.5	412	225	MT5
52	412	225	MT5
53	412	225	MT5
54	417	230	MT5
54.5	417	230	MT5
55	417	230	MT5
55.5	417	230	MT5
56	417	230	MT5
57	422	235	MT5
58	422	235	MT5
59	422	235	MT5
60	422	235	MT5
61	427	240	MT5
62	427	240	MT5
63	427	240	MT5
64	432	245	MT5
65	432	245	MT5
66	432	245	MT5
67	432	245	MT5
68	437	250	MT5
69	437	250	MT5
70	437	250	MT5
71	437	250	MT5
72	437	250	MT5
73	442	255	MT5
74	442	255	MT5
75	442	255	MT5
76	447	260	MT5

EXTRA LENGTH MTS DRILLS HSS



SIZE(mm) OAL(mm) FL(mm) MT

10	315	225	MT1
11	315	225	MT1
12	315	225	MT1
13	315	225	MT1
14	315	225	MT1
14	400	310	MT1
15	315	215	MT2
15	400	300	MT2
15	500	400	MT2
16	315	215	MT2
16	400	300	MT2
16	500	400	MT2
17	315	215	MT2
17	400	300	MT2
17	500	400	MT2
18	315	215	MT2

SIZE(mm)	OAL(mm)	FL(mm)	MT
18	400	300	MT2
18	500	400	MT2
19	315	215	MT2
19	400	300	MT2
19	500	400	MT2
20	315	215	MT2
20	400	300	MT2
20	500	400	MT2
21	315	215	MT2
21	400	300	MT2
21	500	400	MT2
22	315	215	MT2
22	400	300	MT2
22	500	400	MT2
23	315	190	MT3
23	400	275	MT3
23	500	375	MT3
24	400	275	MT3
24	500	375	MT3
25	400	275	MT3
25	500	375	MT3
26	400	275	MT3
26	500	375	MT3
27	400	275	MT3
27	500	375	MT3
28	400	275	MT3
28	500	375	MT3
30	400	275	MT3
30	500	375	MT3
32	400	250	MT4
32	500	350	MT4
35	400	250	MT4
35	500	350	MT4
38	400	250	MT4
38	500	350	MT4
40	400	250	MT4
40	500	350	MT4
42	500	350	MT4
45	500	350	MT4
48	500	350	MT4
50	500	350	MT4



BI-METAL HOLE SAWS & HOLE SAW KITS



DIAMETERS(mm)

14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 27, 29, 30, 32, 33, 35, 37, 38, 40, 41, 43, 44, 46, 48, 51, 52, 54, 56, 57, 59, 60, 64, 65, 67, 68, 70, 73, 76, 79, 83, 86, 89, 92, 95, 98, 102, 105, 108, 111, 114, 121, 127, 133, 140, 152, 160, 168, 177, 210

CONTANT PITCH

KS 100: 16mm, 20mm, 25mm, 32mm, 40, 51, A1,A7,A10

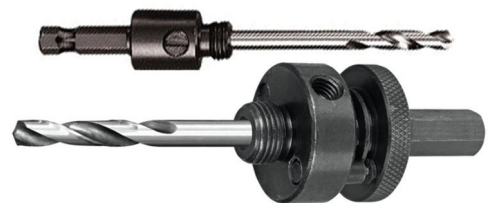
KS 101: 22mm, 29mm, 44mm, 51mm, 64mm, A1, A4, A10

VARIABLE PITCH

KV290 19mm, 22mm, 29mm, 35mm, 38mm, 44mm, 51mm, 57mm, 64mm, A1, A2, A5

KV291 19mm, 22mm, 25mm, 32mm, 35mm, 38, 44, 51, 57, 64, 76, A1,A2,A5,A7

HOLE SAW ARBORS



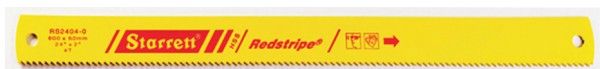
CODE	FITS HOLE SAW DIA (mm)	SHANK/SIZE (mm)
A1	14-30	HEX/8.75
A4	14-30	ROUND/6.5
A2	32-210	HEX/8.75

STARRETT HACK SAW BLADES



LENGTH(mm)	WIDTH(mm)	Tpi
300mm	13mm	18
300mm	13mm	24
300mm	13mm	32

STARRETT POWER SAW BLADES



LENGTH(mm)	WIDTH(mm)	Tpi
300	25	10
300	25	14
350	32	6
350	32	10
400	32	6
400	32	10
450	32	6
450	32	10

BI-METAL BAND SAW BLADES M42



WIDTH (mm)	THICKNESS (mm)	REGULAR	VARI-TOOTH TEETH
6	0.65	6/8/10/14	6-10/8-12/10-14
10	0.9	6/8/10/14	6-10/8-12/10-14
13	0.65	6/8/10/14	6-10/8-12/10-14
13	0.9	6/8/10/14	6-10/8-12/10-14
19	0.9	6/8/10/14	4-6/5-8/6-10/ 8-12/10-14
27	0.90	6/8/10/14	2-3/3-4/4-6/5-8/ 6-10/8-12/10-14
34	1.10	4/6	2-3/3-4/4-6/ 5-8/6/10

WIDTH (mm)	THICKNESS (mm)	REGULAR TEETH	VARI-TOOTH
41	1.30	1.25/2/3/4	1.4-1.9/2-3/ 3-4/4-6/5/8
54	1.60	1.25	1.1-1.4/ 1.5-1.9/2-3/ 3-4/4-6

BAND SAW COIL - CARBON STEEL



WIDTH (mm)	THICKNESS (mm)	REGULAR TEETH	SKIP
5.0	0.63	8/10/18	4/5/6
6.0	0.63	6/8/10/12/ 14/18	4/5/6
10.0	0.63	6/8/10/12/ 14/18	3/4/5/6
13.0	0.63	3/6/8/10/ 12/14/18	3/4/5/6
16.0	0.63	6/8/10/14/ 18	4/6
16.0	0.80	6/8/10/14/ 18	4/6
25.0	0.90	4/6/8/10/12/ 14/18	3/4/6/8/
32	1.1	4	6

THREE FLUTE COUNTERSINK 60° & 90° STRAIGHT SHANK



DIA(mm)	CAPACITY	SHANK DIA (mm)	LENGTH (mm)	T
6.3	M3	6	50	2
8.3	M4	6	50	2.5
10.4	M5	8	56	3
12.4	M6	8	55	4
16.5	M8	10	63	4
20.5	M10	10	67	6
25	M12	12	71	6
32	M16	12	71	6

THREE FLUTE COUNTERSINKS 60° & 90° MTS



DIA(mm)	CAPACITY	MORSE TAPER	LENGTH (mm)
16	M8	1	90
20	M10	2	106
25	M12	2	112
31.5	M16	2	118

Additional sizes on request

STRAIGHT SHANK COUNTERBORES



CAPACITY	PILOT DIA. (mm)	OAL (mm)	FL (mm)	SHANK DIA. (mm)
M3	3.5	71	14	5
M4	4.5	71	14	5
M5	5.5	80	18	8
M6	6.4	80	18	8
M8	9	100	22	12.5
M10	11	100	22	12.5
M12	14	100	22	12.5
M14	14.4	90	25	12
M16	16.5	100	29	16

PARALLEL SHANK HAND REAMERS

DIN 206 TOLERANCE H7



CUTTING DIA(mm)	SHANK DIA (mm)	FL (mm)	OAL (mm)	NO. OF FLUTES	SQUARE (mm)
4	4	38	76	6	3.15
4.5	4.5	41	81	6	3.55
5	5	44	87	6	4
5.5	5.5	47	93	6	4.5
6	6	47	93	6	4.5
6.5	6.5	50	100	6	5
7	7	54	107	6	5.6
7.5	7.5	54	107	6	5.6
8	8	58	115	6	6.3

CUTTING DIA(mm)	SHANK DIA (mm)	FL (mm)	OAL (mm)	NO. OF FLUTES	SQUARE (mm)
8.5	8.5	58	115	6	6.3
9	9	62	124	6	7.1
9.5	9.5	62	124	6	7.1
10	10	66	133	6	8
10.5	10.5	66	133	6	8
11	11	71	142	6	9
11.5	11.5	71	142	6	9
12	12	76	152	6	10
12.5	12.5	76	152	6	10
13	13	76	152	6	10
13.5	13.5	81	163	6	11.2
14	14	81	163	6	11.2
14.5	14.5	81	163	8	11.2
15	15	81	163	8	11.2
15.5	15.5	87	175	8	12.5
16	16	87	175	8	12.5
17	17	87	175	8	12.5
18	18	93	188	8	14
19	19	93	188	8	14
20	20	100	201	8	16
21	21	100	201	8	16
22	22	107	215	8	18
23	23	107	215	8	18
24	24	115	231	10	20
25	25	115	231	10	20
26	26	115	231	10	20
28	28	124	247	10	22.4
30	30	124	247	10	22.4
35	35	142	284	10	28
40	40	152	308	12	31.5



PARALLEL SHANK CHUCKING REAMERS

DIN 212 TOLERANCE H7



CUTTING DIA(mm)	SHANK DIA (mm)	FL (mm)	OAL (mm)	NO. OF FLUTES
4	4	19	75	6
4.5	4.5	21	80	6
5	5.0	23	86	6
5.5	5.6	26	93	6
6	5.6	26	93	6
6.5	6.3	28	101	6
7	7.1	31	109	6
7.5	7.1	31	109	6
8	8	33	117	6
8.5	8	33	117	6
9	9	36	125	6
9.5	9	36	125	6
10	10	38	133	6
10.5	10	38	133	6
11	10	41	142	6
11.5	10	41	142	6
12	10	44	151	6
12.5	10	44	151	6
13	10	44	151	6
13.5	12.5	47	160	8
14	12.5	47	160	8
14.5	12.5	50	162	8
15	12.5	50	162	8
15.5	12.5	52	170	8
16	12.5	52	170	8

TAPER SHANK CHUCKING REAMERS

DIN 208 TOLERANCE H7



CUTTING DIA(mm)	SHANK TAPER	FL (mm)	OAL (mm)	NO. OF FLUTES
6	MT1	26	138	6
7	MT1	31	150	6
8	MT1	33	156	6
9	MT1	36	162	6
10	MT1	38	168	6
11	MT1	41	175	6
12	MT1	44	182	6
13	MT1	44	182	6
14	MT1	47	189	8
15	MT2	50	204	8

CUTTING DIA(mm)	SHANK TAPER	FL (mm)	OAL (mm)	NO. OF FLUTES
16	MT2	52	210	8
17	MT2	54	214	8
18	MT2	56	219	8
19	MT2	58	223	8
20	MT2	60	228	8
22	MT2	64	237	8
24	MT3	68	268	8
25	MT3	68	268	8
26	MT3	70	273	8
28	MT3	71	277	10
30	MT3	73	281	10
32	MT4	77	317	10
34	MT4	78	321	10
35	MT4	78	321	10
36	MT4	79	325	10
38	MT4	81	329	10
40	MT4	81	329	10



TAPER BRIDGE REAMERS



NOMINAL DIA(mm)	SHANK	MINOR DIA(mm)	FL (mm)	OAL (mm)
6.4	MT1	3.4	75	151
8.4	MT1	5	85	161
9	MT1	5.4	90	166
10.4	MT1	6.6	95	171
11	MT1	7	100	176
12	MT2	7.8	105	199
13	MT2	8.8	105	199
14	MT2	9.4	115	209
15	MT2	10	125	219
16	MT2	10.6	135	229
17	MT3	11.6	135	251
18	MT3	12.2	145	261
19	MT3	13.2	145	261
20	MT3	13.8	155	271
21	MT3	14.8	155	271
22	MT3	15.4	165	281
23	MT3	16.4	165	281
24	MT3	16.8	180	296
25	MT3	17.8	180	296
26	MT3	18.8	180	296
27	MT3	19.2	195	311
28	MT3	20.2	195	311
30	MT3	22.2	195	311
32	MT4	23.6	210	354
33	MT4	24.6	210	354
34	MT4	25.6	220	364
37	MT4	28.2	220	364
38	MT4	28.8	230	374
40	MT4	30.8	230	374

TAPER PIN REAMERS STRAIGHT FLUTE DIN

DIN 9A



NOMINAL DIA (mm)	POINT DIA (mm)	END DIA (mm)	FL (mm)	OVERALL LENGTH (mm)	SHANK (mm)	SQUARE (mm)
4	3.9	5.26	68	93	5	4
5	4.9	6.36	73	100	6.3	5
6	5.9	8	105	135	8	6.3
8	7.9	10.8	145	180	10	8
10	9.9	13.4	175	215	12.5	10
12	11.8	16	210	255	14	11.2
16	15.8	20.4	230	280	18	14
20	19.8	24.8	250	310	22.4	18
25	24.7	30.7	300	370	28	22.4
30	29.7	36.1	320	400	31.5	25

TAPER PIN REAMERS SPIRAL FLUTE

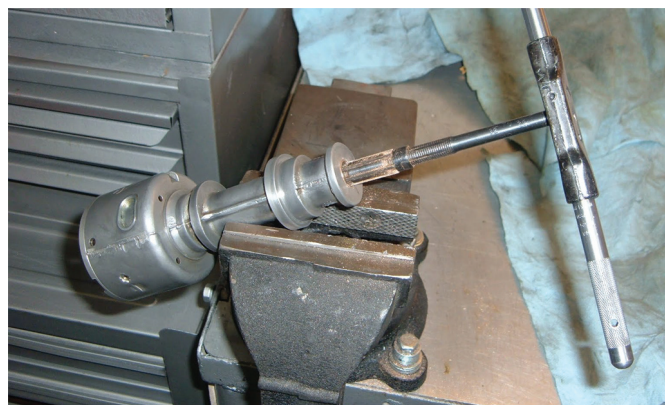
DIN 9B



NOMINAL DIA (mm)	POINT DIA (mm)	END DIA (mm)	FL (mm)	OVERALL LENGTH (mm)	SHANK (mm)	SQUARE (mm)
4	3.9	5.26	68	93	5	4
5	4.9	6.36	73	100	6.3	5
6	5.9	8	105	135	8	6.3
8	7.9	10.8	145	180	10	8
10	9.9	13.4	175	215	12.5	10
12	11.8	16	210	255	14	11.2
16	15.8	20.4	230	280	18	14
20	19.8	24.8	250	310	22.4	18
25	24.7	30.7	300	370	28	22.4
30	29.7	36.1	320	400	31.5	25

ADJUSTABLE HAND REAMERS

Available Sizes From 9.52-75mm



ISO METRIC COARSE HSS

SHORT HAND & MACHINE TAPS - ISO 529



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M1	0.25	2.5	5.5	38.5	2
M1.2	0.25	2.5	5.5	38.5	2
M1.4	0.3	2.5	7	40	2
M1.6	0.35	2.5	8	41	2
M2	0.4	2.5	8	41	2
M2.2	0.45	2.8	9.5	44.5	2.24
M2.5	0.45	2.8	9.5	44.5	2.24
M2.6	0.45	2.8	9.5	44.5	2.24
M3	0.53	15	11	48	2.5
M3.5	0.6	3.55	13	50	2.8
M4	0.7	4.0	13	53	3.15
M4	0.75	4	13	53	3.15
M4.5	0.75	4.5	13	53	3.55
M5	0.8	5.0	16	58	4
M5	0.9	5	16	58	4
M6	1.0	6.3	19	66	5
M7	1.0	7.1	19	66	5.6
M8	1.25	8	22	72	6.3
M9	1.25	9	22	72	7.1
M10	1.5	10	24	80	8
M11	1.5	8	25	85	6.3
M12	1.75	9	29	89	7.1
M14	2.0	11.2	30	95	9
M16	2.0	12.5	32	102	10
M18	2.5	14	37	112	11.2
M20	2.5	14	37	112	11.2
M22	2.5	16	38	118	12.5
M24	3.0	18	45	130	14
M27	3.0	20	45	135	16
M30	3.5	20	48	138	16
M33	3.5	22.4	51	151	18
M36	4.0	25	57	162	20
M39	4.0	28	60	170	22.4
M42	4.5	28	60	170	22.4
M45	4.5	31.5	67	187	25
M48	5.0	31.5	67	187	25
M52	5.0	35.5	70	200	28
M56	5.5	35.5	70	200	28
M60	5.5	40	76	221	31.5
M64	6.0	40	79	224	31.5

ISO METRIC COARSE HSS

SPIRAL POINT MACHINE TAPS - ISO 529



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M1	0.25	2.5	5.5	38.5	2
M1.2	0.25	2.5	5.5	38.5	2
M1.4	0.3	2.5	7	40	2
M1.6	0.35	2.5	8	41	2
M2	0.4	2.5	8	41	2
M2.2	0.45	2.8	9.5	44.5	2.24
M2.5	0.45	2.8	9.5	44.5	2.24
M2.6	0.45	2.8	9.5	44.5	2.24
M3	0.5	3.15	11	48	2.5
M3.5	0.6	3.55	13	50	2.8
M4	0.7	4.0	13	53	3.15
M4	0.75	4	13	53	3.15
M4.5	0.75	4.5	13	53	3.55
M5	0.8	5.0	16	58	4
M5	0.9	5	16	58	4
M6	1.0	6.3	19	66	5
M7	1.0	7.1	19	66	5.6
M8	1.25	8	22	72	6.3
M9	1.25	9	22	72	7.1
M10	1.5	10	24	80	8
M11	1.5	8	25	85	6.3
M12	1.75	9	29	89	7.1
M14	2.0	11.2	30	95	9
M16	2.0	12.5	32	102	10
M18	2.5	14	37	112	11.2
M20	2.5	14	37	112	11.2
M22	2.5	16	38	118	12.5
M24	3.0	18	45	130	14
M27	3.0	20	45	135	16
M30	3.5	20	48	138	16
M33	3.5	22.4	51	151	18
M36	4.0	25	57	162	20
M39	4.0	28	60	170	22.4
M42	4.5	28	60	170	22.4
M45	4.5	31.5	67	187	25
M48	5.0	31.5	67	187	25
M52	5.0	35.5	70	200	28
M56	5.5	35.5	70	200	28
M60	5.5	40	76	221	31.5
M64	6.0	40	79	224	31.5

ISO METRIC COARSE HSS

SPIRAL FLUTE MACHINE TAPS - ISO 529



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M1	0.25	2.5	5.5	38.5	2
M1.2	0.25	2.5	5.5	38.5	2
M1.4	0.3	2.5	7	40	2
M1.6	0.35	2.5	8	41	2
M2	0.4	2.5	8	41	2
M2.2	0.45	2.8	9.5	44.5	2.24
M2.5	0.45	2.8	9.5	44.5	2.24
M2.6	0.45	2.8	9.5	44.5	2.24
M3	0.5	3.15	11	48	2.5
M3.5	0.6	3.55	13	50	2.8
M4	0.7	4.0	13	53	3.15
M4	0.75	4	13	53	3.15
M4.5	0.75	4.5	13	53	3.55
M5	0.8	5.0	16	58	4
M5	0.9	5	16	58	4
M6	1.0	6.3	19	66	5
M7	1.0	7.1	19	66	5.6
M8	1.25	8	22	72	6.3
M9	1.25	9	22	72	7.1
M10	1.5	10	24	80	8
M11	1.5	8	25	85	6.3
M12	1.75	9	29	89	7.1
M14	2.0	11.2	30	95	9
M16	2.0	12.5	32	102	10
M18	2.5	14	37	112	11.2
M20	2.5	14	37	112	11.2
M22	2.5	16	38	118	12.5
M24	3.0	18	45	130	14
M27	3.0	20	45	135	16
M30	3.5	20	48	138	16
M33	3.5	22.4	51	151	18
M36	4.0	25	57	162	20
M39	4.0	28	60	170	22.4
M42	4.5	28	60	170	22.4
M45	4.5	31.5	67	187	25
M48	5.0	31.5	67	187	25
M52	5.0	35.5	70	200	28
M56	5.5	35.5	70	200	28
M60	5.5	40	76	221	31.5
M64	6.0	40	79	224	31.5

ISO METRIC FINE HSS

SHORT HAND & MACHINE TAPS - ISO 529

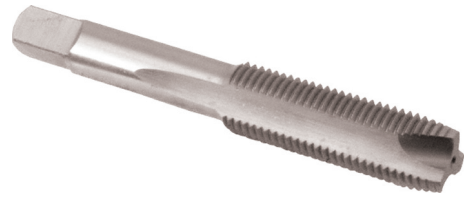


SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M2	0.25	2.5	8	41	2
M2.2	0.25	2.8	9.5	44.5	2.24
M2.5	0.35	2.8	9.5	44.5	2.24
M3	0.35	3.15	11	48	2.5
M4	0.35	4.0	13	53	3.15
M4	0.50	4	13	53	3.15
M5	0.5	5.0	16	58	4
M5	0.75	5	16	58	4
M6	0.50	6.3	19	66	5
M6	0.75	6.3	19	66	5
M7	0.75	7.1	19	66	5.6
M8	0.50	8	22	72	6.3
M8	0.75	8	22	72	6.3
M8	1.00	8	22	72	6.3
M9	0.75	9	22	72	7.1
M9	1.00	9	22	72	7.1
M10	0.50	10	24	80	8
M10	0.75	10	24	80	8
M10	1.00	10	24	80	8
M10	1.25	10	24	80	8
M11	1.00	8	25	85	6.3
M11	1.25	8	25	85	6.3
M12	1.00	9	29	89	7.1
M12	1.25	9	29	89	7.1
M12	1.5	9	29	89	7.1
M14	1.0	11.2	30	95	9
M14	1.25	11.2	30	95	9
M14	1.5	11.2	30	95	9
M15	1.0	11.2	30	95	9
M15	1.5	11.2	30	95	9
M16	1.0	12.5	32	102	10
M16	1.5	12.5	32	102	10
M17	1.0	12.5	32	102	10
M17	1.50	12.5	32	102	10
M18	1.0	14	37	112	11.2
M18	1.25	14	37	112	11.2
M18	1.50	14	37	112	11.2
M18	2.0	14	37	112	11.2
M20	1.0	14	37	112	11.2
M20	1.50	14	37	112	11.2
M20	2.0	14	37	112	11.2
M22	1.0	16	38	118	12.5
M22	1.50	16	38	118	12.5
M22	2.0	16	38	118	12.5

SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M24	1.0	18	45	130	14
M24	1.5	18	45	130	14
M24	2.0	18	45	130	14
M25	1.0	18	45	130	14
M25	1.5	18	45	130	14
M25	2.0	18	45	130	14
M26	1.5	18	45	130	14
M27	1.5	20	37	127	16
M27	2.0	20	37	127	16
M28	1.5	20	37	127	16
M28	2.0	20	37	127	16
M30	1.0	20	37	127	16
M30	1.5	20	37	127	16
M30	2.0	20	37	127	16
M30	3.0	20	48	138	16
M32	1.5	22.4	37	137	18
M32	2.0	22.4	37	137	18
M33	1.5	22.4	37	137	18
M33	2.0	22.4	37	137	18
M33	3.0	22.4	51	151	18
M35	1.5	25	39	144	20
M36	1.5	25	39	144	20
M36	2.0	25	39	144	20
M36	3.0	25	57	162	20
M38	1.5	28	39	149	22.4
M38	2.0	28	39	149	22.4
M39	1.5	28	39	149	22.4
M39	2.0	28	39	149	22.4
M39	3.0	28	60	170	22.4
M40	1.5	28	39	149	22.4
M40	2.0	28	39	149	22.4
M40	3.0	28	60	170	22.4
M42	1.5	28	39	149	22.4
M42	2.0	28	39	149	22.4
M42	3.0	28	60	170	22.4
M42	4.0	28	60	170	22.4
M45	1.5	31.5	45	165	25
M45	2.0	31.5	45	165	25
M45	3.0	31.5	67	187	25
M48	1.5	31.5	45	165	25
M48	2.0	31.5	45	165	25
M48	3.0	31.5	67	187	25
M48	4.0	31.5	67	187	25
M50	1.5	31.5	45	165	25
M50	3.0	31.5	67	187	25
M52	2.0	35.5	45	175	28
M52	3.0	35.5	70	200	28
M56	2.0	35.5	45	175	28
M56	4.0	35.5	70	200	28
M60	2.0	40	76	221	31.5
M60	4.0	40	76	221	31.5
M62	2.0	40	76	221	31.5
M64	2.0	40	79	224	31.5
M64	3.0	40	79	224	31.5
M64	4.0	40	79	224	31.50

ISO METRIC FINE HSS

SPIRAL POINT MACHINE TAPS - ISO 529



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M2	0.25	2.5	8	41	2
M2.2	0.25	2.8	9.5	44.5	2.24
M2.5	0.35	2.8	9.5	44.5	2.24
M3	0.35	3.15	11	48	2.5
M4	0.35	4.0	13	53	3.15
M4	0.50	4	13	53	3.15
M5	0.5	5.0	16	58	4
M5	0.75	5	16	58	4
M6	0.50	6.3	19	66	5
M6	0.75	6.3	19	66	5
M7	0.75	7.1	19	66	5.6
M8	0.50	8	22	72	6.3
M8	0.75	8	22	72	6.3
M8	1.00	8	22	72	6.3
M9	0.75	9	22	72	7.1
M9	1.00	9	22	72	7.1
M10	0.50	10	24	80	8
M10	0.75	10	24	80	8
M10	1.00	10	24	80	8
M10	1.25	10	24	80	8
M11	1.00	8	25	85	6.3
M11	1.25	8	25	85	6.3
M12	1.00	9	29	89	7.1
M12	1.25	9	29	89	7.1
M12	1.5	9	29	89	7.1
M14	1.0	11.2	30	95	9
M14	1.25	11.2	30	95	9
M14	1.5	11.2	30	95	9
M15	1.0	11.2	30	95	9
M15	1.5	11.2	30	95	9
M16	1.0	12.5	32	102	10
M16	1.5	12.5	32	102	10
M17	1.0	12.5	32	102	10
M17	1.50	12.5	32	102	10
M18	1.0	14	37	112	11.2
M18	1.25	14	37	112	11.2
M18	1.50	14	37	112	11.2
M18	2.0	14	37	112	11.2
M20	1.0	14	37	112	11.2
M20	1.50	14	37	112	11.2
M20	2.0	14	37	112	11.2
M22	1.0	16	38	118	12.5
M22	1.50	16	38	118	12.5
M22	2.0	16	38	118	12.5

SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M24	1.0	18	45	130	14
M24	1.5	18	45	130	14
M24	2.0	18	45	130	14
M25	1.0	18	45	130	14
M25	1.5	18	45	130	14
M25	2.0	18	45	130	14
M26	1.5	18	45	130	14
M27	1.5	20	37	127	16
M27	2.0	20	37	127	16
M28	1.5	20	37	127	16
M28	2.0	20	37	127	16
M30	1.0	20	37	127	16
M30	1.5	20	37	127	16
M30	2.0	20	37	127	16
M30	3.0	20	48	138	16
M32	1.5	22.4	37	137	18
M32	2.0	22.4	37	137	18
M33	1.5	22.4	37	137	18
M33	2.0	22.4	37	137	18
M33	3.0	22.4	51	151	18
M35	1.5	25	39	144	20
M36	1.5	25	39	144	20
M36	2.0	25	39	144	20
M36	3.0	25	57	162	20
M38	1.5	28	39	149	22.4
M38	2.0	28	39	149	22.4
M39	1.5	28	39	149	22.4
M39	2.0	28	39	149	22.4
M39	3.0	28	60	170	22.4
M40	1.5	28	39	149	22.4
M40	2.0	28	39	149	22.4
M40	3.0	28	60	170	22.4
M42	1.5	28	39	149	22.4
M42	2.0	28	39	149	22.4
M42	3.0	28	60	170	22.4
M42	4.0	28	60	170	22.4
M45	1.5	31.5	45	165	25
M45	2.0	31.5	45	165	25
M45	3.0	31.5	67	187	25
M48	1.5	31.5	45	165	25
M48	2.0	31.5	45	165	25
M48	3.0	31.5	67	187	25
M48	4.0	31.5	67	187	25
M50	1.5	31.5	45	165	25
M50	3.0	31.5	67	187	25
M52	2.0	35.5	45	175	28
M52	3.0	35.5	70	200	28
M56	2.0	35.5	45	175	28
M56	4.0	35.5	70	200	28
M60	2.0	40	76	221	31.5
M60	4.0	40	76	221	31.5
M62	2.0	40	76	221	31.5
M64	2.0	40	79	224	31.5
M64	3.0	40	79	224	31.5
M64	4.0	40	79	224	31.50

ISO METRIC FINE HSS

SPIRAL FLUTE MACHINE TAPS - ISO 529



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M2	0.25	2.5	8	41	2
M2.2	0.25	2.8	9.5	44.5	2.24
M2.5	0.35	2.8	9.5	44.5	2.24
M3	0.35	3.15	11	48	2.5
M4	0.35	4.0	13	53	3.15
M4	0.50	4	13	53	3.15
M5	0.5	5.0	16	58	4
M5	0.75	5	16	58	4
M6	0.50	6.3	19	66	5
M6	0.75	6.3	19	66	5
M7	0.75	7.1	19	66	5.6
M8	0.50	8	22	72	6.3
M8	0.75	8	22	72	6.3
M8	1.00	8	22	72	6.3
M9	0.75	9	22	72	7.1
M9	1.00	9	22	72	7.1
M10	0.50	10	24	80	8
M10	0.75	10	24	80	8
M10	1.00	10	24	80	8
M10	1.25	10	24	80	8
M11	1.00	8	25	85	6.3
M11	1.25	8	25	85	6.3
M12	1.00	9	29	89	7.1
M12	1.25	9	29	89	7.1
M12	1.5	9	29	89	7.1
M14	1.0	11.2	30	95	9
M14	1.25	11.2	30	95	9
M14	1.5	11.2	30	95	9
M15	1.0	11.2	30	95	9
M15	1.5	11.2	30	95	9
M16	1.0	12.5	32	102	10
M16	1.5	12.5	32	102	10
M17	1.0	12.5	32	102	10
M17	1.50	12.5	32	102	10
M18	1.0	14	37	112	11.2
M18	1.25	14	37	112	11.2
M18	1.50	14	37	112	11.2
M18	2.0	14	37	112	11.2
M20	1.0	14	37	112	11.2
M20	1.50	14	37	112	11.2
M20	2.0	14	37	112	11.2
M22	1.0	16	38	118	12.5
M22	1.50	16	38	118	12.5
M22	2.0	16	38	118	12.5

SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M24	1.0	18	45	130	14
M24	1.5	18	45	130	14
M24	2.0	18	45	130	14
M25	1.0	18	45	130	14
M25	1.5	18	45	130	14
M25	2.0	18	45	130	14
M26	1.5	18	45	130	14
M27	1.5	20	37	127	16
M27	2.0	20	37	127	16
M28	1.5	20	37	127	16
M28	2.0	20	37	127	16
M30	1.0	20	37	127	16
M30	1.5	20	37	127	16
M30	2.0	20	37	127	16
M30	3.0	20	48	138	16
M32	1.5	22.4	37	137	18
M32	2.0	22.4	37	137	18
M33	1.5	22.4	37	137	18
M33	2.0	22.4	37	137	18
M33	3.0	22.4	51	151	18
M35	1.5	25	39	144	20
M36	1.5	25	39	144	20
M36	2.0	25	39	144	20
M36	3.0	25	57	162	20
M38	1.5	28	39	149	22.4
M38	2.0	28	39	149	22.4
M39	1.5	28	39	149	22.4
M39	2.0	28	39	149	22.4
M39	3.0	28	60	170	22.4
M40	1.5	28	39	149	22.4
M40	2.0	28	39	149	22.4
M40	3.0	28	60	170	22.4
M42	1.5	28	39	149	22.4
M42	2.0	28	39	149	22.4
M42	3.0	28	60	170	22.4
M42	4.0	28	60	170	22.4
M45	1.5	31.5	45	165	25
M45	2.0	31.5	45	165	25
M45	3.0	31.5	67	187	25
M48	1.5	31.5	45	165	25
M48	2.0	31.5	45	165	25
M48	3.0	31.5	67	187	25
M48	4.0	31.5	67	187	25
M50	1.5	31.5	45	165	25
M50	3.0	31.5	67	187	25
M52	2.0	35.5	45	175	28
M52	3.0	35.5	70	200	28
M56	2.0	35.5	45	175	28
M56	4.0	35.5	70	200	28
M60	2.0	40	76	221	31.5
M60	4.0	40	76	221	31.5
M62	2.0	40	76	221	31.5
M64	2.0	40	79	224	31.5
M64	3.0	40	79	224	31.5
M64	4.0	40	79	224	31.50

ISO METRIC FINE HSS

LONG REDUCED SHANK MACHINE TAPS - ISO 374



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M4	0.50	2.8	10	63	2.1
M5	0.5	3.5	12	70	2.7
M6	0.50	4.5	14	80	3.4
M6	0.75	4.5	14	80	3.4
M8	0.75	6	18	90	4.9
M8	1.00	6	18	90	4.9
M9	1.00	7	18	90	5.5
M10	1.00	7	20	90	5.5
M10	1.25	7	24	100	5.5
M12	1.00	9	22	100	7.0
M12	1.25	9	22	100	7.0
M12	1.5	9	22	100	7.0
M14	1.0	11	22	100	9
M14	1.25	11	22	100	9
M14	1.5	11	22	100	9
M16	1.5	12	22	110	9
M18	1.50	14	25	110	11
M20	1.50	16	25	125	12
M22	1.50	18	25	125	14.5
M24	1.5	18	28	140	14.5

ISO METRIC FINE HSS

EXTRA LONG MACHINE TAPS - ISO 2283



SIZE	PITCH (mm)	SHANK DIA (mm)	THREAD LENGTH (mm)	OVERAL LENGTH (mm)	SQUARE (mm)
M8	1.00	6.3	19	97	5
M10	1.00	8	24	108	6.3
M10	1.25	8	24	108	6.3
M12	1.00	9	24	119	7.1
M12	1.25	9	24	119	7.1
M12	1.5	9	24	119	7.1
M14	1.25	11.2	25	127	9
M14	1.5	11.2	30	127	9
M16	1.5	12.5	32	137	10
M18	1.50	14	29	149	11.2
M20	1.50	14	29	149	11.2
M22	1.50	16	33	158	12.5
M24	1.5	18	35	172	14

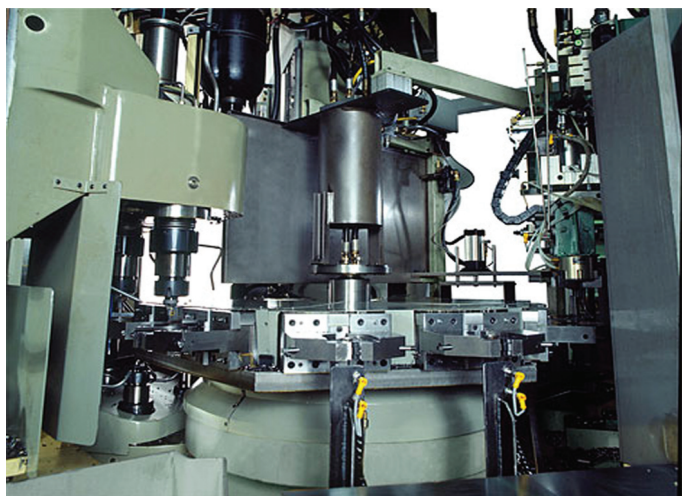
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HAND AND MACHINE TAPS - ISO 529



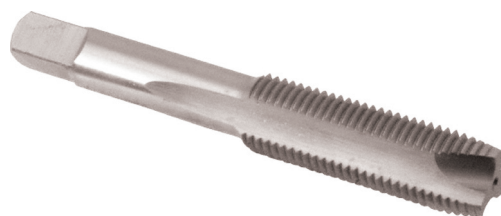
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 1	64	1.854	2.5	8	41	2
No 2	56	2.184	2.8	9.5	44.5	2.24
No 3	48	2.515	2.8	9.5	44.5	2.24
No 4	40	2.845	3.15	11	48	2.5
No 5	40	3.175	3.15	11	48	2.5
No 6	32	3.505	3.55	13	50	2.8
No 8	32	4.166	4.5	13	53	3.55
No 10	24	4.826	5	16	58	4
No 12	24	5.486	5.6	17	62	4.5
1/4	20	6.350	6.3	19	66	5
5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
1/2	13	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
3/4	10	19.05	14	37	112	11.2
7/8	9	22.225	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 3/8	6	34.925	25	57	162	20
1 1/2	6	38.1	28	60	170	22.4
1 3/4	5	44.45	31.5	67	187	25
2"	4.5	50.8	35.5	70	200	28
2 1/4	4.5	57.15	40	76	221	31.5
2 1/2	4	63.5	40	79	224	31.5



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UNC

SPIRAL POINT TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 1	64	1.854	2.5	8	41	2
No 2	56	2.184	2.8	9.5	44.5	2.24
No 3	48	2.515	2.8	9.5	44.5	2.24
No 4	40	2.845	3.15	11	48	2.5
No 5	40	3.175	3.15	11	48	2.5
No 6	32	3.505	3.55	13	50	2.8
No 8	32	4.166	4.5	13	53	3.55
No 10	24	4.826	5	16	58	4
No 12	24	5.486	5.6	17	62	4.5
1/4	20	6.350	6.3	19	66	5
5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
1/2	13	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
3/4	10	19.05	14	37	112	11.2
7/8	9	22.225	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 3/8	6	34.925	25	57	162	20
1 1/2	6	38.1	28	60	170	22.4
1 3/4	5	44.45	31.5	67	187	25
2"	4.5	50.8	35.5	70	200	28
2 1/4	4.5	57.15	40	76	221	31.5
2 1/2	4	63.5	40	79	224	31.5

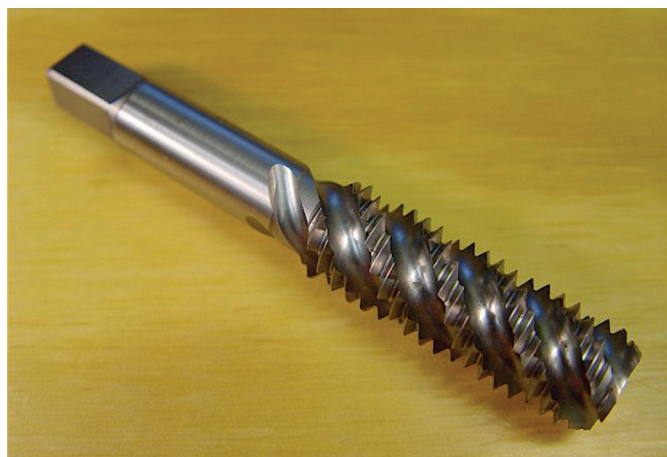
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UNC

SPIRAL FLUTE TAPS - ISO 529



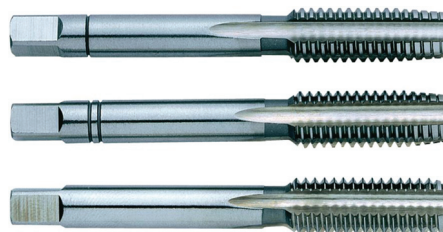
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 1	64	1.854	2.5	8	41	2
No 2	56	2.184	2.8	9.5	44.5	2.24
No 3	48	2.515	2.8	9.5	44.5	2.24
No 4	40	2.845	3.15	11	48	2.5
No 5	40	3.175	3.15	11	48	2.5
No 6	32	3.505	3.55	13	50	2.8
No 8	32	4.166	4.5	13	53	3.55
No 10	24	4.826	5	16	58	4
No 12	24	5.486	5.6	17	62	4.5
¼	20	6.350	6.3	19	66	5
5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
½	13	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
¾	10	19.05	14	37	112	11.2
7/8	9	22.225	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 3/8	6	34.925	25	57	162	20
1 1/2	6	38.1	28	60	170	22.4
1 3/4	5	44.45	31.5	67	187	25
2"4.	5	50.8	35.5	70	200	28
2 1/4	4.5	57.15	40	76	221	31.5
2 1/2	4	63.5	40	79	224	31.5



UNIFIED NATIONAL FINE

UNF

SHORT HAND TAPS - ISO 529

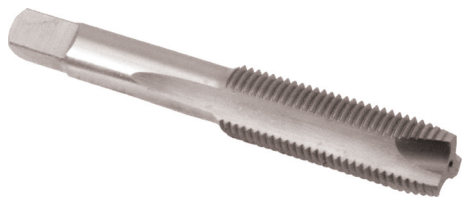


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 0	80	1.524	2.5	8	41	2
No 1	72	1.854	2.5	8	41	2
No 2	64	2.184	2.8	9.5	44.5	2.24
No 3	56	2.515	2.8	9.5	44.5	2.24
No 4	48	2.845	3.15	11	48	2.5
No 5	44	3.175	3.15	11	48	2.5
No 6	40	3.505	3.55	13	50	2.8
No 8	36	4.166	4.5	13	53	3.55
No 10	32	4.826	5	16	58	4
No 12	28	5.486	5.6	17	62	4.5
¼	28	6.350	6.3	19	66	5
5/16	24	7.938	8	22	72	6.3
3/8	24	9.525	10	24	80	8
7/16	20	11.112	8	25	85	6.3
½	20	12.7	9	29	89	7.1
9/16	18	14.288	11.2	30	95	9
5/8	18	15.875	12.5	32	102	10
¾	16	19.05	14	37	112	11.2
7/8	14	22.225	16	38	118	12.5
1"	12	25.4	18	45	130	14
1 1/8	12	28.575	20	37	127	16
1 1/4	12	31.75	22.4	37	127	18
1 3/8	12	34.925	25	39	144	20
1 1/2	12	38.1	28	39	149	22.4

UNIFIED NATIONAL FINE

UNF

SPIRAL POINT TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 0	80	1.524	2.5	8	41	2
No 1	72	1.854	2.5	8	41	2
No 2	64	2.184	2.8	9.5	44.5	2.24
No 3	56	2.515	2.8	9.5	44.5	2.24
No 4	48	2.845	3.15	11	48	2.5
No 5	44	3.175	3.15	11	48	2.5
No 6	40	3.505	3.55	13	50	2.8
No 8	36	4.166	4.5	13	53	3.55
No 10	32	4.826	5	16	58	4
No 12	28	5.486	5.6	17	62	4.5
1/4	28	6.350	6.3	19	66	5
5/16	24	7.938	8	22	72	6.3
3/8	24	9.525	10	24	80	8
7/16	20	11.112	8	25	85	6.3
1/2	20	12.7	9	29	89	7.1
9/16	18	14.288	11.2	30	95	9
5/8	18	15.875	12.5	32	102	10
3/4	16	19.05	14	37	112	11.2
7/8	14	22.225	16	38	118	12.5
1"	12	25.4	18	45	130	14
1 1/8	12	28.575	20	37	127	16
1 1/4	12	31.75	22.4	37	127	18
1 3/8	12	34.925	25	39	144	20
1 1/2	12	38.1	28	39	149	22.4

UNIFIED NATIONAL FINE

UNF

SPIRAL FLUTE MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 0	80	1.524	2.5	8	41	2
No 1	72	1.854	2.5	8	41	2
No 2	64	2.184	2.8	9.5	44.5	2.24
No 3	56	2.515	2.8	9.5	44.5	2.24
No 4	48	2.845	3.15	11	48	2.5
No 5	44	3.175	3.15	11	48	2.5
No 6	40	3.505	3.55	13	50	2.8
No 8	36	4.166	4.5	13	53	3.55
No 10	32	4.826	5	16	58	4

SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
No 12	28	5.486	5.6	17	62	4.5
1/4	28	6.350	6.3	19	66	5
5/16	24	7.938	8	22	72	6.3
3/8	24	9.525	10	24	80	8
7/16	20	11.112	8	25	85	6.3
1/2	20	12.7	9	29	89	7.1
9/16	18	14.288	11.2	30	95	9
5/8	18	15.875	12.5	32	102	10
3/4	16	19.05	14	37	112	11.2
7/8	14	22.225	16	38	118	12.5
1"	12	25.4	18	45	130	14
1 1/8	12	28.575	20	37	127	16
1 1/4	12	31.75	22.4	37	127	18
1 3/8	12	34.925	25	39	144	20
1 1/2	12	38.1	28	39	149	22.4

UNIFIED NATIONAL EXTRA FINE

UNEF

SHORT HAND & MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/4	32	6.350	6.3	19	66	5
5/16	32	7.938	8	19	69	6.3
3/8	32	9.525	10	20	76	8
1/2	28	12.7	9	29	89	7.1
5/8	24	15.875	12.5	32	102	10
3/4	20	19.05	14	37	112	11.2
7/8	20	22.225	16	38	118	12.5
1"	20	25.4	18	45	130	14
1 1/8	18	28.575	20	37	127	16
1 3/8	18	34.925	25	39	144	20



UNIFIED NATIONAL

UN

HAND TAPS - ISO 529



UN(8TPI THREAD SERIES)

SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1 1/8	8	28.575	20	48	138	16
1 1/4	8	31.75	22.4	51	151	18
1 3/8	8	34.925	25	57	162	20
1 1/2	8	38.1	28	60	170	22.4
1 5/8	8	41.275	28	60	170	22.4
1 3/4	8	44.45	31.5	67	187	25
1 7/8	8	47.625	31.5	67	187	25
2"	8	50.8	35.5	70	200	28
2 1/4	8	57.15	40	76	221	31.5
2 1/2	8	63.5	40	79	224	31.5

UN (12TPI THREAD SERIES)

1 1/16	12	26.988	20	37	127	16
1 3/16	12	30.163	20	37	127	16
1 5/16	12	33.338	22.4	37	137	18
1 5/8	12	41.275	28	39	149	22.4
1 3/4	12	44.45	31.5	45	165	25
1 7/8	12	47.625	31.5	45	165	25
2"	12	50.8	35.5	45	175	28
2 1/4	12	57.15	40	76	221	31.5
2 1/2	12	63.5	40	79	224	31.5

UN (14TPI THREAD SERIES)

1	14	25.4	18	45	130	14
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UNIFIED NATIONAL

UN

SPIRAL POINT SHORT MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
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UN(8TPI THREAD SERIES)

1 1/8	8	28.575	20	48	138	16
1 1/4	8	31.75	22.4	51	151	18
1 3/8	8	34.925	25	57	162	20
1 1/2	8	38.1	28	60	170	22.4
1 5/8	8	41.275	28	60	170	22.4
1 3/4	8	44.45	31.5	67	187	25
1 7/8	8	47.625	31.5	67	187	25
2"	8	50.8	35.5	70	200	28
2 1/4	8	57.15	40	76	221	31.5
2 1/2	8	63.5	40	79	224	31.5

SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
-------------	-------------	--------------	----------------	-----------------	--------------	-------------

(12TPI THREAD SERIES)

1 1/16	12	26.988	20	37	127	16
1 3/16	12	30.163	20	37	127	16
1 5/16	12	33.338	22.4	37	137	18
1 5/8	12	41.275	28	39	149	22.4
1 3/4	12	44.45	31.5	45	165	25
1 7/8	12	47.625	31.5	45	165	25
2"	12	50.8	35.5	45	175	28
2 1/4	12	57.15	40	76	221	31.5
2 1/2	12	63.5	40	79	224	31.5

UN (14TPI THREAD SERIES)

1	14	25.4	18	45	130	14
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UNIFIED NATIONAL

UN

SPIRAL FLUTE MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
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UN(8TPI THREAD SERIES)

1 1/4	8	31.75	22.4	51	151	18
1 3/8	8	34.925	25	57	162	20

UN(8TPI THREAD SERIES)

1 1/2	8	38.1	28	60	170	22.4
1 5/8	8	41.275	28	60	170	22.4
1 3/4	8	44.45	31.5	67	187	25
1 7/8	8	47.625	31.5	67	187	25
2"	8	50.8	35.5	70	200	28
2 1/4	8	57.15	40	76	221	31.5
2 1/2	8	63.5	40	79	224	31.5

UN (12TPI THREAD SERIES)

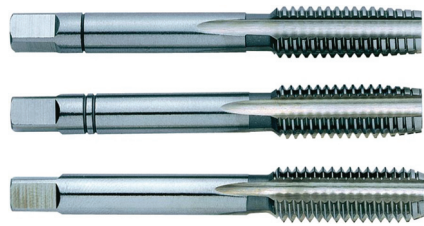
1 1/16	12	26.988	20	37	127	16
1 3/16	12	30.163	20	37	127	16
1 5/16	12	33.338	22.4	37	137	18
1 5/8	12	41.275	28	39	149	22.4
1 3/4	12	44.45	31.5	45	165	25
1 7/8	12	47.625	31.5	45	165	25
2"	12	50.8	35.5	45	175	28
2 1/4	12	57.15	40	76	221	31.5
2 1/2	12	63.5	40	79	224	31.5

UN (14TPI THREAD SERIES)

1	14	25.4	18	45	130	14
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BRITISH STANDARD WHITWORTH BSW

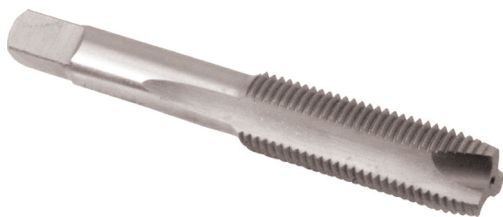
SHORT HAND & MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	40	3.175	3.15	11	48	2.5
5/32	32	3.968	4.0	13	53	3.15
3/16	24	4.762	5	16	58	4
1/4	20	6.350	6.3	19	66	5
5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
1/2	12	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
1 1/16	11	17.462	14	37	112	11.2
3/4	10	19.05	14	37	112	11.2
7/8	9	22.226	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 3/8	6	35.25	25	57	162	20
1 1/2	6	38.1	28	60	170	22.4
1 3/4	5	44.45	31.5	67	187	25
2"	4.5	50.8	35.5	70	200	28
2 1/4	4.0	57.15	40	76	221	31.5
2 1/2	4	63.5	40	79	224	31.5

BRITISH STANDARD WHITWORTH BSW

SPIRAL POINT MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	40	3.175	3.15	11	48	2.5
5/32	32	3.968	4.0	13	53	3.15
3/16	24	4.762	5	16	58	4
1/4	20	6.350	6.3	19	66	5

SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
-------------	-------------	--------------	----------------	-----------------	--------------	-------------

5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
1/2	12	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
11/16	11	17.462	14	37	112	11.2
3/4	10	19.05	14	37	112	11.2
7/8	9	22.225	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 1/2	6	35.25	25	57	162	20

BRITISH STANDARD WHITWORTH BSW

SPIRAL FLUTE MACHINE TAPS - ISO 529



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
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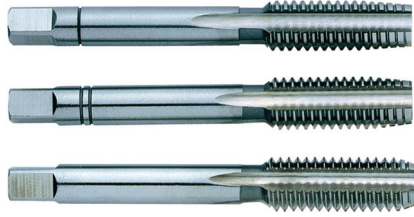
1/8	40	3.175	3.15	11	48	2.5
5/32	32	3.968	4.0	13	53	3.15
3/16	24	4.762	5	16	58	4
1/4	20	6.350	6.3	19	66	5
5/16	18	7.938	8	22	72	6.3
3/8	16	9.525	10	24	80	8
7/16	14	11.112	8	25	85	6.3
1/2	12	12.7	9	29	89	7.1
9/16	12	14.288	11.2	30	95	9
5/8	11	15.875	12.5	32	102	10
11/16	11	17.462	14	37	112	11.2
3/4	10	19.05	14	37	112	11.2
7/8	9	22.225	16	38	118	12.5
1"	8	25.4	18	45	130	14
1 1/8	7	28.575	20	48	138	16
1 1/4	7	31.75	22.4	51	151	18
1 1/2	6	35.25	25	57	162	20



BRITISH STANDARD FINE

BSF

SHORT HAND & MACHINE TAPS - ISO 529

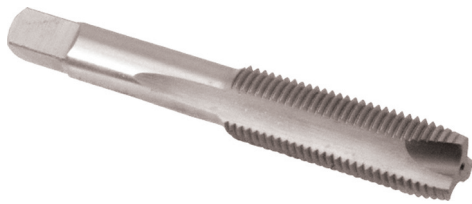


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
3/16	32	4.762	5	16	58	4
1/4	26	6.350	6.3	19	66	5
5/16	22	7.938	8	22	72	6.3
3/8	20	9.525	10	24	80	8
7/16	18	11.112	8	25	85	6.3
1/2	16	12.7	9	29	89	7.1
9/16	16	14.288	11.2	30	95	9
5/8	14	15.875	12.5	32	102	10
3/4	12	19.05	14	37	112	11.2
7/8	11	22.225	16	38	118	12.5
1"	10	25.4	18	45	130	14

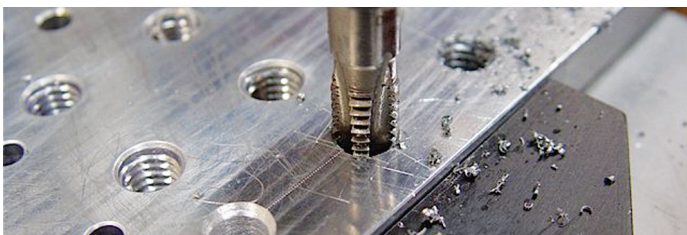
BRITISH STANDARD FINE

BSF

SPIRAL POINT MACHINE TAPS - ISO 529



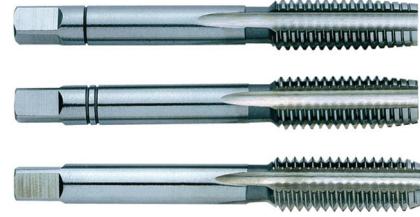
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
3/16	32	4.762	5	16	58	4
1/4	26	6.350	6.3	19	66	5
5/16	22	7.938	8	22	72	6.3
3/8	20	9.525	10	24	80	8
7/16	18	11.112	8	25	85	6.3
1/2	16	12.7	9	29	89	7.1
9/16	16	14.288	11.2	30	95	9
5/8	14	15.875	12.5	32	102	10
3/4	12	19.05	14	37	112	11.2
7/8	11	22.225	16	38	118	12.5
1"	10	25.4	18	45	130	14



BRITISH STANDARD BRASS

BSB

SHORT HAND & MACHINE TAPS SET(2) - ISO 529

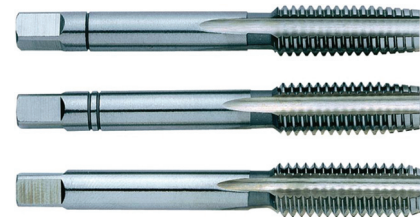


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/4	26	6.350	6.3	19	66	5
5/16	26	7.937	8	19	66	6.3
3/8	26	9.525	10	20	76	8
7/16	26	11.112	8	20	76	6.3
1/2	26	12.7	9	24	84	7.1

BRITISH ASSOCIATION

BA

SHORT HAND & MACHINE TAPS - ISO 529



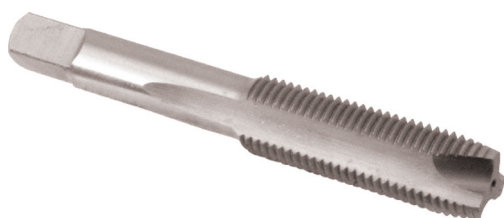
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
NO 14	0.23	1	2.5	5.5	38.5	2.0
NO 13	0.25	1.2	2.5	5.5	38.5	2.0
NO 12	0.28	1.3	2.5	7	40	2
NO 11	0.31	1.5	2.5	8	41	2
NO 10	0.35	1.7	2.5	8	41	2
NO 9	0.39	1.9	2.5	8	41	2
NO 8	0.43	2.2	2.8	9.5	44.5	2.24
NO 7	0.48	2.5	2.8	9.5	44.5	2.24
NO 6	0.53	2.8	2.8	9.5	44.5	2.24
NO 5	0.59	3.2	3.15	11	48	2.5
NO 4	0.66	3.6	3.55	13	50	2.8
NO 3	0.73	4.1	4.5	13	53	3.55
NO 2	0.81	4.7	5	16	58	4
NO 1	0.9	5.3	5.6	17	62	4.5
NO 0	1	6.0	6.3	19	66	5



BRITISH ASSOCIATION

BA

SPIRAL POINT MACHINE TAPS - ISO 529

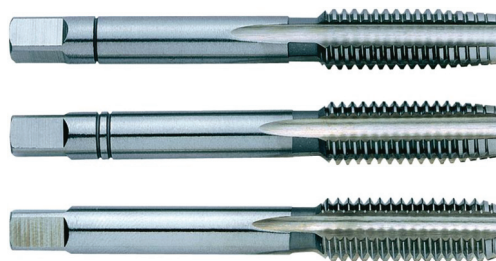


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
NO 14	0.23	1	2.5	5.5	38.5	2.0
NO 13	0.25	1.2	2.5	5.5	38.5	2.0
NO 12	0.28	1.3	2.5	7	40	2
NO 11	0.31	1.5	2.5	8	41	2
NO 10	0.35	1.7	2.5	8	41	2
NO 9	0.39	1.9	2.5	8	41	2
NO 8	0.43	2.2	2.8	9.5	44.5	2.24
NO 7	0.48	2.5	2.8	9.5	44.5	2.24
NO 6	0.53	2.8	2.8	9.5	44.5	2.24
NO 5	0.59	3.2	3.15	11	48	2.5
NO 4	0.66	3.6	3.55	13	50	2.8
NO 3	0.73	4.1	4.5	13	53	3.55
NO 2	0.81	4.7	5	16	58	4
NO 1	0.9	5.3	5.6	17	62	4.5
NO 0	1	6.0	6.3	19	66	5

BSP MECHANICAL JOINT ST BF

G

SHORT HAND & MACHINE TAPS SET(2) - ISO 2284



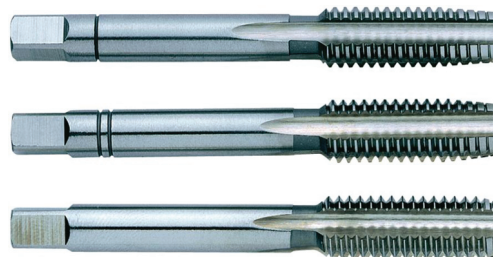
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	8	15	59	6.3
1/4	19	13.157	10	19	67	8
3/8	19	16.662	12.5	21	75	10
1/2	14	20.955	16	26	87	12.5
5/8	14	22.911	18	26	91	14
3/4	14	26.441	20	28	96	16
7/8	14	30.201	22.4	29	102	18
1	11	33.249	25	33	109	20
1 1/8	11	37.897	31.5	36	119	25
1 1/4	11	41.91	31.5	36	119	25
1 1/2	11	47.803	35.5	37	125	28
1 3/4	11	53.746	35.5	39	132	28
2	11	59.614	40	41	140	31.5

SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
2 1/4	11	65.71	40	42	142	31.5
2 1/2	11	75.184	45	45	153	35.5
3	11	87.884	50	48	164	40

BSP MECHANICAL JOINT

G

SHORT HAND & MACHINE TAPS SET(2) LH - ISO 2284

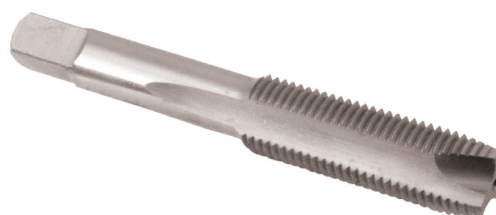


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	8	15	59	6.3
1/4	19	13.157	10	19	67	8
3/8	19	16.662	12.5	21	75	10
1/2	14	20.955	16	26	87	12.5
5/8	14	22.911	18	26	91	14
3/4	14	26.441	20	28	96	16
7/8	14	30.201	22.4	29	102	18
1	11	33.249	25	33	109	20

BSP MECHANICAL JOINT

G

SPIRAL POINT MACHINE TAPS LH - ISO 2284

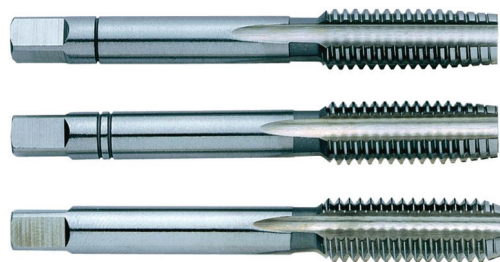


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	8	15	59	6.3
1/4	19	13.157	10	19	67	8
3/8	19	16.662	12.5	21	75	10
1/2	14	20.955	16	26	87	12.5
5/8	14	22.911	18	26	91	14
3/4	14	26.441	20	28	96	16
7/8	14	30.201	22.4	29	102	18
1	11	33.249	25	33	109	20

BSP LEAKPROOF JOINT RP

RP

SHORT HAND & MACHINE TAPS SET(2) - ISO 2284

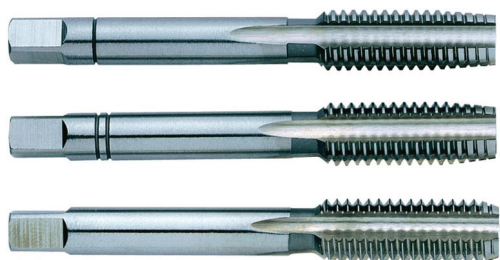


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	8	15	59	6.3
1/4	19	13.157	10	19	67	8
3/8	19	16.662	12.5	21	75	10
1/2	14	20.955	16	26	87	12.5
5/8	14	22.911	18	26	91	14
3/4	14	26.441	20	28	96	16
1	11	33.249	25	33	109	20
1 1/4	11	41.91	31.5	36	119	25
1 1/2	11	47.803	35.5	37	125	28
2	11	59.614	40	41	140	31.5
2 1/2	11	75.184	45	45	153	35.5
3	11	87.884	50	48	164	40

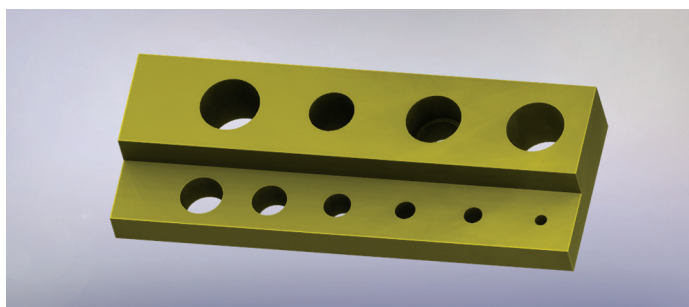
BSP LEAKPROOF JOINT RP

RP

SHORT HAND & MACHINE TAPS SET(2) LH - ISO 2284



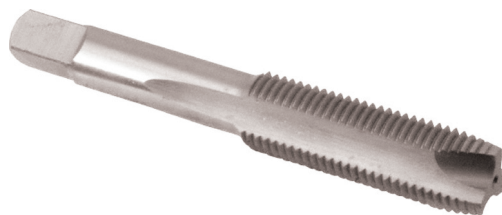
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/2	14	20.955	16	26	87	12.5
1	11	33.249	25	33	109	20



BSP LEAKPROOF JOINT RP

RP

SPIRAL POINT MACHINE TAPS - ISO 2284



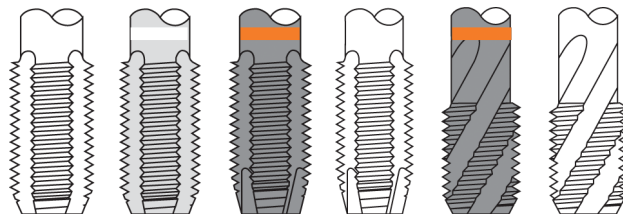
SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	8	15	59	6.3
1/4	19	13.157	10	19	67	8
3/8	19	16.662	12.5	21	75	10
1/2	14	20.955	16	26	87	12.5
3/4	14	26.441	20	28	96	16
1	11	33.249	25	33	109	20

BSP MECHANICAL JOINT RP

RP

LONG SHANK MACHINE TAPS - DIN 5156

STR. FL. FORM C	STR. FL. NITRIDE	ST SP	BF SP	ST SF	BF SF
G0220	G0222GG	G12210R	G1220	G42210R	G4220
C	C	B	B	C/D	C/D
BF	NI	ST	BF	ST	BF
M/L	M/L	M/L	M/L	M/L	M/L



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	7	20	90	5.5
1/4	19	13.157	11	22	100	9
3/8	19	16.662	12	22	100	9
1/2	14	20.955	16	25	125	12
5/8	14	22.911	18	25	125	14.5
3/4	14	26.441	20	28	140	16
1	11	33.249	25	30	160	20
1 1/4	11	41.91	32	30	170	24
1 1/2	11	47.803	36	32	190	29

* Under normal usages, G taps will cut threads to form a mechanical joint (M), whilst RP taps, being smaller in effective diameter, will cut threads to form a leakproof joint.

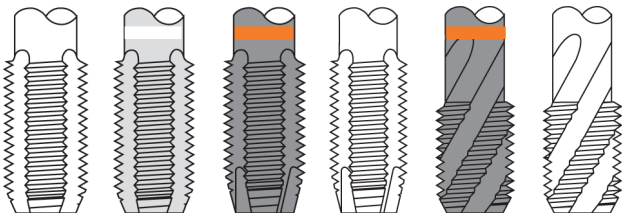
BSP MECHANICAL JOINT

G

LONG SHANK MACHINE TAPS - DIN 5156



STR. FL. FORM C	STR. FL. NITRIDE	ST SP	BF SP	ST SF	BF SF
G0220	G0222GG	G12210R	G1220	G42210R	G4220
C	C	B	B	C/D	C/D
BF	NI	ST	BF	ST	BF
M/L	M/L	M/L	M/L	M/L	M/L



SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	28	9.728	7	20	90	5.5
1/4	19	13.157	11	22	100	9
3/8	19	16.662	12	22	100	9
1/2	14	20.955	16	25	125	12
5/8	14	22.911	18	25	125	14.5
3/4	14	26.441	20	28	140	16
1	11	33.249	25	30	160	20
1 1/4	11	41.91	32	30	170	24
1 1/2	11	47.803	36	32	190	29

BSPT - 1:16 TAPER

RC

ISO 2284



SIZE (mm)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	GAUGE LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/16	28	7.723	5.6	14	10.1	52	4.5
1/8	28	9.728	8	15	10.1	59	6.3
1/4	19	13.157	10	19	15	67	8
3/8	19	16.662	12.5	21	15.4	75	10
1/2	14	20.955	16	26	20.5	87	12.5
3/4	14	26.441	20	28	21.8	96	16
1	11	33.249	25	33	26	109	20
1 1/4	11	41.91	31.5	36	28.3	119	25
1 1/2	11	47.803	35.5	37	28.3	125	28
2	11	59.614	40	41	32.7	140	31.5
2 1/2	11	75.184	45	45	37.1	153	35.5

* For easiest threading use 1:16 Taper Reamer before tapping

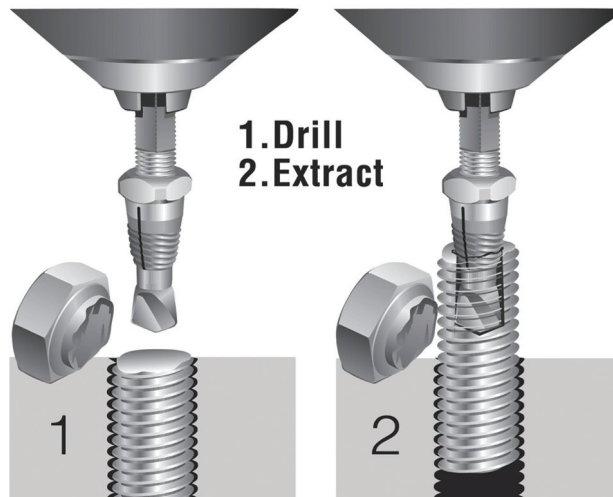
NATIONAL PIPE STRAIGHT NPS/NPF

ISO 2284

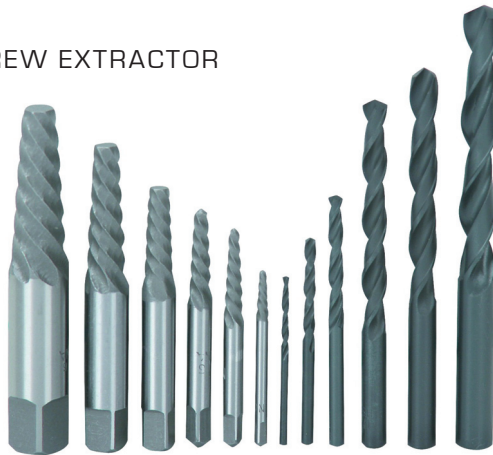


SIZE (Inch)	PITCH (TPI)	NOM DIA (mm)	SHANK DIA (mm)	THREAD LTH (mm)	OAL LTH (mm)	SQUARE (mm)
1/8	27	10.272	8	15	59	6.3
1/4	18	13.571	10	19	67	8
3/8	18	17.053	12.5	21	75	10
1/2	14	21.224	16	26	87	12.5
3/4	14	26.568	20	28	96	16
1	11 1/2	33.228	25	33	109	20
1 1/4	11 1/2	41.986	31.5	36	119	25
1 1/2	11 1/2	48.054	35.5	37	125	28
2	11 1/2	60.091	40	41	140	31.5

TAP DRILL EXTRACTORS



SCREW EXTRACTOR



HSS CIRCULAR DIES

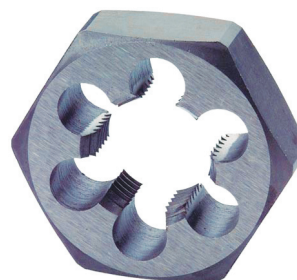
ISO METRIC COARSE DIN 22568 STD



SIZE	PITCH(mm)	DIE STOCK(mm)	L/H
M1	0.25	16 X 5	
M1.2	0.25	16 X 5	
M1.4	0.3	16 X 5	
M1.6	0.35	16 X 5	
M1.7	0.35	16 X 5	
M2	0.4	16 X 5	*
M2.2	0.45	16 X 5	
M2.3	0.4	16 X 5	
M2.5	0.45	16 X 5	*
M2.6	0.45	16 X 5	
M3	0.5	20 X 5	*
M3	0.6	20 X 5	
M3.5	0.6	20 X 5	*
M4	0.7	20 X 5	*
M4	0.75	20 X 7	
M4.5	0.75	20 X 7	
M5	0.8	20 X 7	*
M5	0.9	20 X 7	
M6	1	20 X 7	*
M7	1	25 X 9	
M8	1.25	25 X 9	*
M9	1.25	25 X 9	
M10	1.5	30 X 11	*
M11	1.5	30 X 11	
M12	1.75	38 X 14	*
M14	2	38 X 14	*
M16	2	45 X 18	*
M18	2.5	45 X 18	*
M20	2.5	45 X 18	*
M22	2.5	55 X 22	*
M24	3	55 X 22	*
M27	3	65 X 25	*
M30	3.5	65 X 25	
M33	3.5	65 X 25	
M36	4	65 X 25	
M39	4	75 X 30	
M42	4.5	75 X 30	
M45	4.5	90 X 36	
M48	5	90 X 36	
M52	5	90 X 36	

HSS HEX DIES

ISO METRIC COARSE - DIN 22568 STD



SIZE	PITCH(mm)	DIMENSION(mm)	L/H
M1	0.25	18 X 5	
M1.2	0.25	18 X 5	
M1.4	0.3	18 X 5	
M1.6	0.35	18 X 5	
M1.7	0.35	18 X 5	
M2	0.4	18 X 5	
M2.2	0.45	18 X 5	
M2.3	0.4	18 X 5	
M2.5	0.45	18 X 5	
M2.6	0.45	18 X 5	
M3	0.5	18 X 5	
M3	0.6	18 X 5	
M3.5	0.6	18 X 5	
M4	0.7	18 X 5	
M4	0.75	18 X 7	
M4.5	0.75	18 X 7	
M5	0.8	18 X 7	*
M5	0.9	18 X 7	
M6	1	18 X 7	*
M7	1	21 X 9	
M8	1.25	21 X 9	*
M9	1.25	21 X 9	
M10	1.5	27 X 11	*
M11	1.5	27 X 11	
M12	1.75	36 X 14	*
M14	2	36 X 14	
M16	2	41 X 18	
M18	2.5	41 X 18	
M20	2.5	41 X 18	
M22	2.5	50 X 22	
M24	3	50 X 22	
M27	3	60 X 25	
M30	3.5	60 X 25	*
M33	3.5	60 X 25	
M36	4	60 X 25	
M39	4	70 X 30	
M42	4.5	70 X 30	
M45	4.5	85 X 36	
M48	5	85 X 36	
M52	5	85 X 36	

HSS CIRCULAR DIES

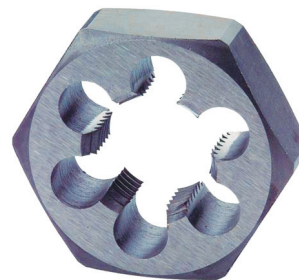
ISO METRIC FINE - DIN 22568 STD/LF



SIZE	PITCH(mm)	DIE STOCK(mm)
M3	0.35	20 X 5
M4	0.5	20 X 5
M4.5	0.5	20 X 5
M5	0.5	20 X 5
M5	0.75	20 X 7
M6	0.5	20 X 5
M6	0.75	20 X 7
M7	0.75	25 X 9
M8	0.5	25 X 9
M8	0.75	25 X 9
M8	1.0	25 X 9
M9	0.75	25 X 9
M9	1.0	25 X 9
M10	0.75	30 X 11
M10	1.0	30 X 11
M10	1.25	30 X 11
M11	1.0	30 X 11
M12	1.0	38 X 10
M12	1.25	38 X 10
M12	1.5	38 X 10
M14	1.0	38 X 10
M14	1.25	38 X 10
M14	1.5	38 X 10
M16	1.0	45 X 14
M16	1.5	45 X 14
M18	1.0	45 X 14
M18	1.5	45 X 14
M18	2.0	45 X 14
M20	1.0	45 X 14
M20	1.5	45 X 14
M20	2.0	45 X 14
M22	1.5	55 X 16
M24	1	55 X 16
M24	1.5	55 X 16
M24	2.0	55 X 16
M25	1.0	55 X 16
M25	1.5	55 X 16
M26	2.0	55 X 16
M27	1.5	65 X 18
M28	1.5	65 X 18
M30	1.5	65 X 18
M30	2.0	65 X 18
M30	3.0	65 X 25
M32	1.5	65 X 18
M36	1.5	65 X 18
M36	2.0	65 X 18
M39	1.5	75 X 20
M40	1.5	75 X 20
M48	2	90 X 22
M50	1.5	90 X 22

HSS HEX DIES

ISO METRIC FINE - DIN 22568 STD



SIZE	PITCH(mm)	DIMENSION(mm)	L/H
M3	0.35	18 X 5	
M4	0.5	18 X 5	
M4.5	0.5	18 X 5	
M5	0.5	18 X 5	
M5	0.75	18 X 7	*
M6	0.5	18 X 5	
M6	0.75	18 X 7	
M7	0.75	21 X 9	
M8	0.5	21 X 9	
M8	0.75	21 X 9	
M8	1.0	21 X 9	
M9	0.75	21 X 9	
M9	1.0	21 X 9	
M10	0.75	27 X 11	
M10	1.0	27 X 11	
M10	1.25	27 X 11	
M11	1.0	27 X 11	
M12	1.0	36 X 10	
M12	1.25	36 X 10	
M12	1.5	36 X 10	
M14	1.0	36 X 10	
M14	1.25	36 X 10	
M14	1.5	36 X 10	
M16	1.0	41 X 14	
M16	1.5	41 X 14	*
M18	1.0	41 X 14	
M18	1.5	41 X 14	
M18	2.0	41 X 14	
M20	1.0	41 X 14	
M20	1.5	41 X 14	
M20	2.0	41 X 14	
M22	1.5	50 X 16	
M24	1	50 X 16	
M24	1.5	50 X 16	
M24	2.0	50 X 16	
M25	1.0	50 X 16	
M25	1.5	50 X 16	
M26	2.0	60 X 18	
M27	1.5	60 X 18	
M28	1.5	60 X 18	
M30	1.5	60 X 18	
M30	2.0	60 X 18	
M30	3.0	60 X 18	
M32	1.5	60 X 18	
M36	1.5	60 X 18	
M36	2.0	60 X 18	
M39	1.5	70 X 20	
M40	1.5	70 X 20	
M48	2	85 X 22	
M50	1.5	85 X 22	

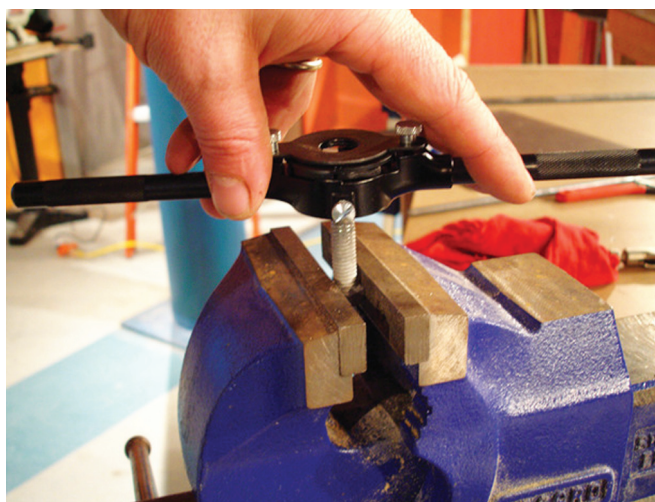
HSS CIRCULAR DIES

UNC

UNIFIED NATIONAL COARSE UNC - DIN 22568 STD



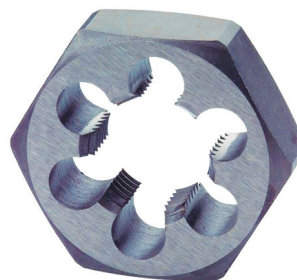
SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
No 1	64	16 x 5	
No 2	56	16 x 5	
No 3	48	16 x 5	
No 4	40	16 x 5	
No 5	40	20 x 5	
No 6	32	20 x 7	
No 8	32	20 x 7	
No 10	24	20 x 7	
No 12	24	20 x 7	
1/4	20	20 x 7	*
5/16	18	25 x 9	*
3/8	16	30 x 11	*
7/16	14	30 x 11	*
1/2	13	38 x 14	*
9/16	12	38 x 14	*
5/8	11	45 x 18	*
3/4	10	45 x 18	*
7/8	9	55 x 22	
1	8	55 x 22	
1 1/8	7	65 x 25	
1 1/4	7	65 x 25	
1 3/8	6	65 x 25	
1 1/2	6	75 x 30	
1 3/4	5	90 x 36	
2	4 1/2	90 x 36	



HSS HEX DIES

UNC

UNIFIED NATIONAL COARSE - DIN 22568 STD



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
No 1	64	18 x 5	
No 2	56	18 x 5	
No 3	48	18 x 5	
No 4	40	18 x 5	
No 5	40	18 x 5	
No 6	32	18 x 5	
No 8	32	18 x 5	
No 10	24	18 x 7	
No 12	24	18 x 7	
1/4	20	18 x 7	
5/16	18	21 x 9	
3/8	16	27 x 11	*
7/16	14	27 x 11	
1/2	13	36 x 14	
9/16	12	36 x 14	
5/8	11	41 x 18	
3/4	10	41 x 18	
7/8	9	50 x 22	*
1	8	50 x 22	*
1 1/8	7	60 x 25	
1 1/4	7	60 x 25	
1 3/8	6	60 x 25	
1 1/2	6	70 x 30	
1 3/4	5	85 x 36	
2	4 1/2	85 x 36	



HSS CIRCULAR DIES**UNF**

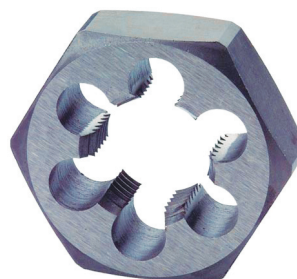
UNIFIED NATIONAL FINE UNF - DIN 22568 STD



SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
No 0	80	16 x 5	
No 1	72	16 x 5	
No 2	64	16 x 5	
No 3	56	16 x 5	
No 4	48	16 x 5	
No 5	44	20 x 5	
No 6	40	20 x 5	
No 8	36	20 x 5	
No 10	32	20 x 7	
No 12	28	20 x 7	
¼	28	20 x 7	*
5/16	24	25 x 9	*
3/8	24	30 x 11	*
7/16	20	30 x 11	*
½	20	38 x 10	*
9/16	18	38 x 10	*
5/8	18	45 x 14	*
¾	16	45 x 14	
7/8	14	55 x 16	
1	12	55 x 16	
1 1/8	12	65 x 18	
1 1/4	12	65 x 18	
1 3/8	12	65 x 18	
1 1/2	12	75 x 20	
1 3/4	12	90 x 36	
2	12	90 x 36	

HSS HEX DIES**UNF**

UNIFIED NATIONAL FINE - DIN 22568 STD



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
No 0	80	18 X 5	
No 1	72	18 x 5	
No 2	64	18 x 5	
No 3	56	18 x 5	
No 4	48	18 x 5	
No 5	44	18 x 5	
No 6	40	18 x 5	
No 8	36	18 x 5	
No 10	32	18 x 7	
No 12	28	18 x 7	
¼	28	18 x 7	
5/16	24	21 x 9	
3/8	24	27 x 11	
7/16	20	27 x 11	
½	20	36 x 10	*
9/16	18	36 x 10	
5/8	18	41 x 14	
¾	16	41 x 14	*
7/8	14	50 x 16	*
1	12	50 x 16	*
1 1/8	12	60 x 18	
1 1/4	12	60 x 18	
1 3/8	12	60 x 18	
1 1/2	12	70 x 20	
1 3/4	12	85 x 22	
2	12	85 x 22	

HSS CIRCULAR DIES**UNEF**

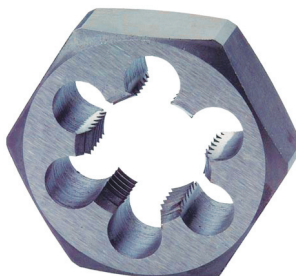
UNIFIED NATIONAL EXTRA FINE - DIN 22568 STD



SIZE	PITCH(mm)	DIE STOCK(mm)
No 12	32	20 x 7
1/4	32	20 x 7
5/16	32	25 x 9
3/8	32	30 x 11
7/16	28	30 x 11
1/2	28	38 x 10
9/16	24	38 x 10
5/8	24	45 x 14
11/16	24	45 X 14
3/4	20	45 X 14
7/8	20	55 X 16
1	20	55 X 16

HSS HEX DIES**UNEF**

UNIFIED NATIONAL EXTRA FINE - DIN 22568 STD



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
No 12	32	18 x 7	
1/4	32	18 x 7	
5/16	32	21 x 9	
3/8	32	27 x 11	
7/16	28	27 x 11	
1/2	28	36 x 10	*
9/16	24	36 x 10	*
5/8	24	41 x 14	
11/16	24	41 X 14	
3/4	20	41 X 14	
7/8	20	50 X 16	
1	20	50 X 16	

HSS CIRCULAR DIES**BSW**

BRITISH STANDARD WHITWORTH - DIN 22568 STD



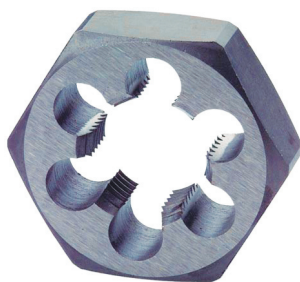
SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
1/16	60	16 X 5	
3/32	48	16 X 5	
1/8	40	20 X 5	
5/32	32	20 X 7	
3/16	24	20 X 7	*
7/32	24	20 X 7	
1/4	20	20 X 7	*
5/16	18	25 X 9	*
3/8	16	30 X 11	*
7/16	14	30 X 11	
1/2	12	38 X 14	*
9/16	12	38 x 14	
5/8	11	45 x 18	*
3/4	10	45 x 18	*
7/8	9	55 x 22	*
1	8	55 x 22	
11/8	7	65 x 25	
11/4	7	65 x 25	
13/8	6	65 x 25	
11/2	6	75 x 30	



HSS HEX DIES

BSW

BRITISH STANDARD WHITWORTH - DIN 22568 STD



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
1/16	60	18 X 5	
3/32	48	18 X 5	
1/8	40	18 X 5	
5/32	32	18 X 5	
3/16	24	18 X 7	*
7/32	24	18 X 7	
1/4	20	18 X 7	*
5/16	18	21 X 9	*
3/8	16	27 X 11	*
7/16	14	27 X 11	*
1/2	12	36 X 14	*
9/16	12	36 X 14	
5/8	11	41 X 18	*
3/4	10	41 X 18	*
7/8	9	50 X 22	*
1	8	50 X 22	*
11/8	7	60 X 25	
11/4	7	60 X 25	*
13/8	6	60 X 25	
11/2	6	70 X 30	

HSS CIRCULAR DIES

BSF

BRITISH STANDARD FINE - DIN EN 22568 STD



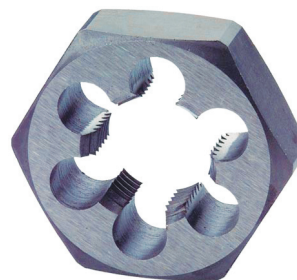
SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
3/16	32	20 X 7	
1/4	26	20 X 7	
5/16	22	25 X 9	
3/8	20	30 X 11	
7/16	18	30 X 11	
1/2	16	38 X 10	*
9/16	16	38 X 10	
5/8	14	45 X 14	

SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
3/4	12	45 X 14	
7/8	11	55 X 16	*
1	10	55 X 16	*
11/8	9	65 X 18	
11/4	9	65 X 18	
13/8	8	65 X 18	
11/2	8	75 X 20	
13/4	7	90 X 22	
2	7	90 X 22	

HSS HEX DIES

BSF

BRITISH STANDARD FINE - DIN EN 22568



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
3/16	32	18 X 7	
1/4	26	18 X 7	
5/16	22	21 X 9	
3/8	20	27 X 11	*
7/16	18	27 X 11	
1/2	16	36 X 10	
9/16	16	36 X 10	*
5/8	14	41 X 14	
3/4	12	41 X 14	*
7/8	11	50 X 16	*
1	10	50 X 16	
11/8	9	60 X 18	
11/4	9	60 X 18	
13/8	8	60 X 18	
11/2	8	70 X 20	
13/4	7	85 X 22	*
2	7	85 X 22	



HSS CIRCULAR DIES**BA**

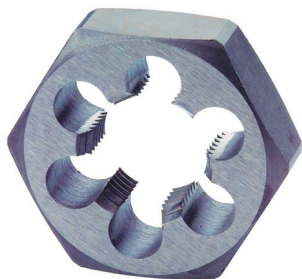
BRITISH ASSOCIATION - DIN EN 22568



SIZE	PITCH	DIE STOCK(mm)
N010	0.35	16 X 5
N09	0.39	16 X 5
N08	0.43	16 X 5
N07	0.48	16 X 5
N06	0.53	16 X 5
N05	0.59	20 X 5
N04	0.66	20 X 5
N03	0.73	20 X 5
N02	0.81	20 X 7
N01	0.90	20 X 7
N00	1	20 X 7

HSS HEX DIES**BA**

BRITISH ASSOCIATION - DIN EN 22568



SIZE	PITCH	DIMENSION(mm)
N010	0.35	19 X 5
N09	0.39	19 X 5
N08	0.43	19 X 5
N07	0.48	19 X 5
N06	0.53	19 X 5
N05	0.59	19 X 5
N04	0.66	19 X 5
N03	0.73	19 X 5
N02	0.81	19 X 7
N01	0.90	19 X 7
N00	1	19 X 7

HSS CIRCULAR DIES**BSB**

BRITISH STANDARD BRASS - DIN EN 22568

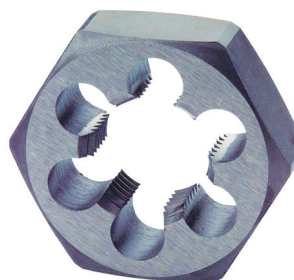


SIZE	PITCH(TPI)	DIE STOCK(mm)
1/4	26	20 X 7
5/16	26	25 X 9
3/8	26	30 X 11
7/16	26	30 X 11
1/2	26	38 X 10
5/8	26	45 X 14
3/4	26	45 X 14

* USE /4" BSF NORMALLY EX-STOCK:
PRICE ON REQUEST

HSS CIRCULAR DIES**BSB**

BRITISH STANDARD BRASS - DIN EN 22568



SIZE	PITCH(TPI)	DIEMNSION(mm)
1/4*	26	20 X 7
5/16	26	25 X 9
3/8	26	30 X 11
7/16	26	30 X 11
1/2	26	38 X 10
5/8	26	45 X 14
3/4	26	45 X 14

* USE /4" BSF NORMALLY EX-STOCK:
PRICE ON REQUEST

HSS CIRCULAR DIES**BSP G**

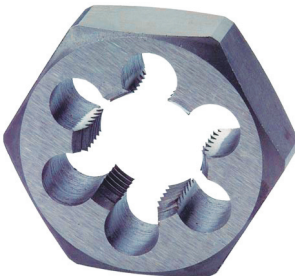
DIN EN 24231



SIZE	PITCH(TPI)	DIE STOCK(mm)	L/H
G1/8	28	30 X 11	
G1/4	19	38 X 10	*
G3/8	19	45 X 14	*
G1/2	14	45 X 14	*
G5/8	14	55 X 16	*
G3/4	14	55 X 16	
G7/8	14	65 X 18	
G1	11	65 X 18	*
G1 1/4	11	75 X 20	
G1 1/2	11	90 X 22	
G1 3/4	11	90 X 22	
G2	11	105 X 22	

HSS HEX DIES**BSP G**

DIN EN 24231



SIZE	PITCH(TPI)	DIMENSION(mm)	L/H
G1/8	28	27 X 11	*
G1/4	19	36 X 10	
G3/8	19	41 X 14	
G1/2	14	41 X 14	*
G5/8	14	50 X 16	
G3/4	14	50 X 16	*
G7/8	14	60 X 18	
G1	11	60 X 18	
G1 1/4	11	70 X 20	
G1 1/2	11	85 X 22	
G1 3/4	11	100 X 22	
G2	11	100 X 22	

HSS CIRCULAR DIES**BSPT RC G**

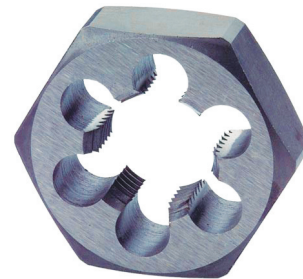
[1:16 TAPER] - DIN EN 24230



SIZE	PITCH(TPI)	DIE STOCK(mm)
1/8	28	30 X 11
1/4	19	38 X 14
3/8	19	45 X 14
1/2	14	45 X 18
3/4	14	55 X 22
1	11	65 X 25

HSS HEX DIES**BSPT RC G**

[1:16 TAPER] - DIN EN 24230



SIZE	PITCH(TPI)	DIMENSION(mm)
1/8	28	27 X 11
1/4	19	36 X 14
3/8	19	41 X 14
1/2	14	41 X 18
3/4	14	60 X 18
1	11	60 X 25



HSS CIRCULAR DIES

NPT

NATIONAL PIPE TAPER (1:16 TAPER)

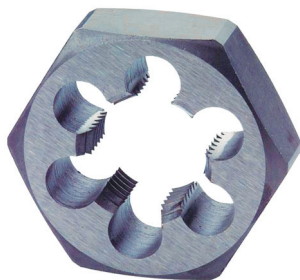


SIZE	PITCH(TPI)	DIE STOCK(mm)
1/16	27	25 X 9
1/8	27	30 X 11
1/4	18	38 X 14
3/8	18	45 X 14
1/2	14	45 X 18
3/4	14	55 X 22
1 1	11 1/2	65 X 25
1.1/4	1 11/2	75 X 25
1 1/2	1 11/2	90 X 25
2	1 11/2	105 X 27

HSS HEX DIES

NPT

NATIONAL PIPE TAPER (1:16 TAPER)



SIZE	PITCH(TPI)	DIMENSION(mm)
1/16	27	27 X 11
1/8	27	27 X 11
1/4	18	36 X 14
3/8	18	41 X 14
1/2	14	41 X 18
3/4	14	60 X 18
1	1 11/2	60 X 25
1.1/4	1 11/2	75 X 30
1 1/2	1 11/2	85 X 27
2	1 11/2	100 X 28

DIE STOCKS AND TAP WRENCHES

DIE STOCKS HEAVY DUTY STEEL BODY - DIN225



DIAMETER(MM)	HEIGHT(MM)
16	5
20	5
20	7
25	9
30	11
38	10
38	14
45	14
45	18
55	16
55	22
65	18
65	25
75	20
75	30
90	22
90	36

TAP WRENCHES ADJUSTABLE HEAVY DUTY FORGED STEEL - DIN 1814



SIZE	CAPACITY	
	ISO 529	DIN 352
0	M1-M7	M1-M8
1	M1-M8	M1-M10
1 1/2	M2-M12	M2-M12
2	M4-M12	M4-M12
3	M6-M20	M5-M18
4	M11-M27	M11-M27
5	M13-M30	M13-M30
6	M18-M42	M18-M42
7	M25-M52	M25-M52
8	M25-M64	M25-M64

RATCHET TYPE WRENCHES



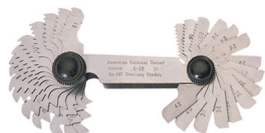
NUMBER	LENGTH	CAPACITY ISO 529
1	85	M2-M6
2	100	M6-M12
10	250	M2-M6
20	300	M6-M12

THREAD FILES AND GAUGES

THREAD RESTORER

TYPE	PITCH
METRIC #8	0.8/1/1.25/1.5/1.75/2/2.5/3mm
IMPERIAL #1	11/12/13/14/16/18/20/24TPI
IMPERIAL #2	9/10/12/16/20/27/28/32TPI
PIPE	8/11/12/14/18TPI

SCREW PITCH GAUGE METRIC/ IMPERIAL 54 BLADES



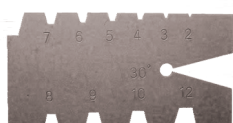
COMBINED SCREW CUTTING GAUGE FOR 60° (METRIC & AMERICAN), 55° (WHIT), 14.5° (ACME half angle)



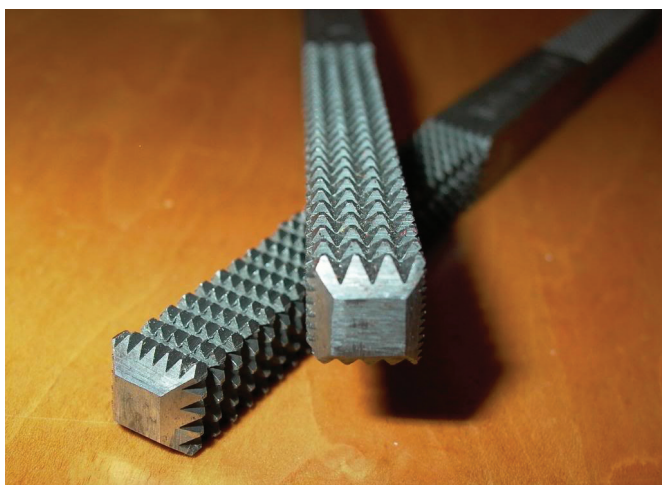
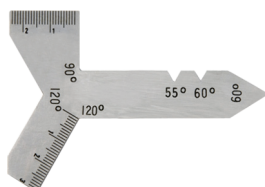
TURNING & THREAD GAUGE 55° AND 60°



TRAPEZOIDAL THREAD GAUGE 2-12MM PITCH WITH 30° FLANK ANGLE.



UNIVERSAL GRINDING GAUGE COMBINED DRILL POINT GAUGE, 55° + 60°, HEXAGON AND RIGHT ANGLE.



TAPS AND DIE SETS IN BOXES

ISO 529 & DIN EN 22568



Size	Description
M3-M12	STD HSSE-V TAP SETS & DIES BF M3,4,5,6,8,10,12
M3-M12	SERIAL HSSE-V TAP SETS & DIES BF M3,4,5,6,8,10,12
M3-M20	STD HSSE-V TAP SETS & DIES BF M3,4,5,6,8,10,12,14,16,18,20
M3-M20	SERIAL HSSE-V TAP SETS & DIES BF M3,4,5,6,8,10,12,14,16,18,20
M3-M12	STD HSS TAP SETS & DIES BF M3,4,5,6,8,10,12
M3-M20	STD HSS TAP SETS & DIES BF M3,4,5,6,8,10,12,14,16,18,20

TAPS IN METAL BOXES

M3-M12	SECONDS	BF M3,4,5,6,8,10,12
M3-M12	SPIRAL POINT	BF M3,4,5,6,8,10,12
M3-M12	SPIRAL POINT	ST M3,4,5,6,8,10,12
M3-M12	SPIRAL FLUTE	BF M3,4,5,6,8,10,12
M3-M12	SPIRAL FLUTE	ST M3,4,5,6,8,10,12
M3-M12	STANDARD SETS	BF M3,4,5,6,8,10,12
M3-M12	SERIAL SETS	BF M3,4,5,6,8,10,12

RING TAP SETS

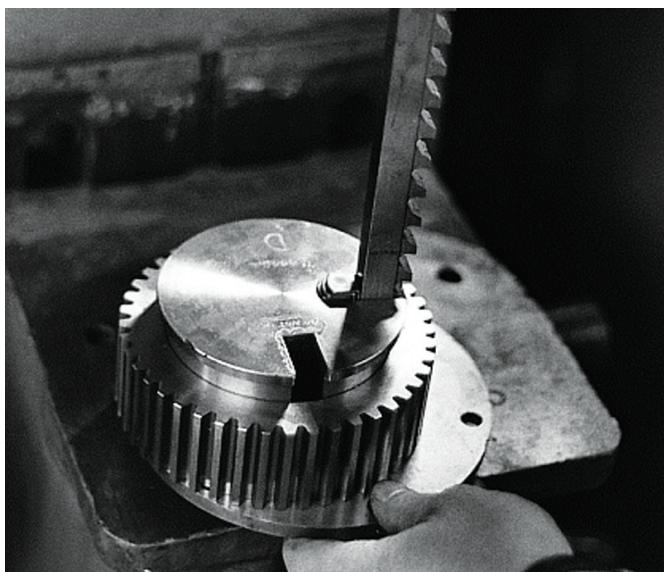
M3-M12	DIN371/6 SPIRAL POINT	OR	ST
M3-M2	DIN371/6 SPIRAL FLUTE	OR	ST
M3-M12	DIN371/6 SPIRAL FLUTE	OR	ST
M3-M12	DIN371/6 SPIRAL POINT	RR	NIST
M3-M12	DIN371/6 SPIRAL FLUTE	RR	NIST
M3-M12	DIN371/6 SPIRAL POINT	BR	ST
M3-M12	DIN371/6 SPIRAL FLUTE	BR	ST
M3-M12	DIN371/6 SPIRAL POINT	GR	BF
M3-M12	DIN371/6 SPIRAL FLUTE	GR	BF
M3-M12	DIN371/6 SPIRAL POINT	YR	BF
M3-M12	DIN371/6 SPIRAL FLUTE	YR	BF
M3-M12	DIN371/6 SPIRAL POINT	YR	SO ST
M3-M12	DIN371/6 SPIRAL FLUTE	YR	SO ST

WDS MARLCO KEYWAY BROACHES METRIC



B - KEYWAY BODY WIDTH **L1** - O/ALL LENGTH **L2** - MIN LENGTH OF CUT
L3 - MAX LENGTH **P** - PITCH OF TEETH **S** - NO. OF SHIMS X THICKNESS
R - NO. OF PASSES

SIZE (mm)	STYLE	B	L1	L2	L3	P	S	WDS NO
2	OM	4.20	152	10.2	25.5	5.1	0	6021-202
3	OM	4.20	152	10.2	25.5	5.1	1 X 0.75	6021-203
4	OM	4.20	152	10.2	25.5	5.1	2 X 0.75	6021-204
4	1M	8.25	203	18.2	54	9.1	1 X 0.25	6022-204
							2 X 0.75	
5	1M	8.25	203	18.2	54	9.1	3 X 0.75	6022-205
6	1M	8.25	203	18.2	54	9.1	3 X 0.75	6022-206
							1 X 0.50	
8	1M	8.25	203	18.2	54	9.1	4 X 0.75	6022-208
							1 X 0.25	
8	2M	14.30	305	31.8	104	15.9	2 X 1.25	6023-208
							1 X 0.75	
10	2M	14.30	305	31.8	104	15.9	2 X 1.25	6023-210
							1 X 0.75	
12	2M	14.30	305	31.8	104	15.9	2 X 1.25	6023-212
							1 X 0.75	
14	2M	14.30	305	31.8	104	15.9	3 X 1.25	6023-214
16	3M	19.05	305	31.8	104	15.9	3 X 1.25	6024-216
							2 X 0.50	
18	3M	19.05	305	31.8	104	15.9	3 X 1.25	6024-218
							2 X 0.50	
20	4M	25.40	380	38	152	19.0	7 X 0.75	6025-220
							2 X 0.50	
22	4M	25.4	380	38	152	19	9 X 0.75	6025-222
25	4M	25.4	380	38	152	19	9 X 0.75	6025-225



WDS MARLCO KEYWAY BROACH SETS METRIC



BROACH SET 6001: CONSISTS OFF 3 BROACHES, 5 GUIDES AND 4 SHIMS

SIZE (mm)	BROACH STYLE	WDS NO
2	LOM	6001
3	LOM	6001
4	LOM	6001

GUIDE BORE DIAMETER: 6 7 8 10 12
SHIMS: 1X0.25, 0.50, 2X0.75

BROACH SET 6002: CONSISTS OFF 4 BROACHES, 9 GUIDES AND 6 SHIMS

SIZE (mm)	BROACH STYLE	WDS NO
4	L1M	6002
5	L1M	6002
6	L1M	6002
8	L1M	6002

GUIDE BORE DIAMETER: 12 14 16 18 20 22 25 28 30
SHIMS: 1X0.25, 0.50 4X0.75

BROACH SET 6003: CONSISTS OFF 4 BROACHES, 8 GUIDES, 7 SHIMS AND EXTENSION SHANK

SIZE (mm)	BROACH STYLE	WDS NO
8	L2M	6003
10	L2M	6003
12	L2M	6003
14	L2M	6003

GUIDE BORE DIAMETER: 30 32 35 38 40 45 48 50
SHIMS: 1X0.25, 0.50, 0.75 4X1.25

BROACH SET 6004: CONSISTS OFF 2 BROACHES, 6 GUIDES, 6 SHIMS AND EXTENSION SHANK

SIZE (mm)	BROACH STYLE	WDS NO
16	L3M	6004
18	L3M	6004

GUIDE BORE DIAMETER: 52 55 58 60 62 65
SHIMS: 1X0.75 2X0.50 3X1.25

BROACH SET 6005: CONSISTS OFF 2 BROACHES, 4 GUIDES, 12 SHIMS AND EXTENSION SHANK

SIZE (mm)	BROACH STYLE	WDS NO
20	L4M	6005
25	L4M	6005

GUIDE BORE DIAMETER: 70 75 90 95
SHIMS: 2X0.50, 9X0.75

WDS MARLCO KEYWAY BROACHES INCH SERIES



B - KEYWAY BODY WIDTH **L1** - O/ALL LENGTH **L2** - MIN LENGTH OF CUT
L3 - MAX LENGTH **P** - PITCH OF TEETH **R** - NO. OF PASSES
S - NO. OF SHIMS X THICKNESS

SIZE (Inch)	STYLE	B	L1	L2	L3	P	S	WDS NO
1/16	LO	5/32	6	0.40	1	0.20	0	6061-01
3/32	LO	5/32	6	0.40	1	0.20	1X0.02	6061-015
1/8	LO	5/32	6	0.40	1	0.20	1X0.03	6061-02
							1X0.01	
1/8	L1	5/16	8	0.72	2.13	0.36	2X0.03	6062-02
3/16	L1	5/16	8	0.72	2.13	0.36	3X0.03	6062-03
1/4	L1	5/16	8	0.72	2.13	0.36	4X0.03	6062-04
5/16	L1	5/16	8	0.72	2.13	0.36	5X0.03	6062-05
5/16	L2	9/16	12	1.25	4.13	0.63	2X0.05	6063-05
							1X0.03	
3/8	L2	9/16	12	1.25	4.13	0.63	3X0.05	6063-06
7/16	L2	9/16	12	1.25	4.13	0.63	3X0.05	6063-07
							1X0.03	
1/2	L2	9/16	12	1.25	4.13	0.63	4X0.05	6063-08
							1X0.02	
5/8	L3	3/4	12	1.25	4.13	0.63	5X0.05	6064-10
							2X0.02	
3/4	L3	3/4	12	1.25	4.13	0.63	7X0.05	6064-12
7/8	L4	1	15	1.50	6.00	0.75	13X0.03	6065-14
							2X0.02	
1	L4	1	15	1.50	6.00	0.75	15X0.03	6065-15
							2X0.02	

WDS MARLCO TWO SPEED PRESS



6501, 6502, 6503
 1.5 and 3 ton

STROKE(mm)	DAYLIGHT(mm)
420	420
420	610
610	610

WDS MARLCO KEYWAY BROACH SETS INCH SERIES



BROACH SET 6011: CONSISTS OFF 3 BROACHES,
 5 GUIDES AND 4 SHIMS

SIZE (Inch)	BROACH STYLE	WDS NO
1/16	LO	6011
3/32	LO	6011
1/8	LO	6011

GUIDE BORE DIAMETER: 1/4 5/16 3/8 7/16 1/2
SHIMS: 1X0.01, 1X0.02, 1X0.03

BROACH SET 6012

SIZE (Inch)	BROACH STYLE	WDS NO
1/8	LO	6012
3/16	LO	6012
1/4	LO	6012
1/8	LO	6012

GUIDE BORE DIAMETER: 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4
SHIMS: 1X0.01, 1X0.02, 5X0.03

BROACH SET 6013

SIZE (Inch)	BROACH STYLE	WDS NO
5/16	LO	6013
3/8	LO	6013
7/16	LO	6013

GUIDE BORE DIAMETER: 1-1/8 1-1/4 1-3/8 1-1/2 1-5/8 1-3/4 1-7/8 2
SHIMS: 1x0.01, 1x0.02, 1x0.03, 4x0.05

BROACH SET 6014

SIZE (Inch)	BROACH STYLE	WDS NO
5/8	LO	6014
3/4	LO	6014

GUIDE BORE DIAMETER: 2-1/8 2-1/4 2-3/8 2-1/2 2-3/4 3
SHIMS: 1x0.03, 2x0.02, 7x0.05

BROACH SET 6015

SIZE (Inch)	BROACH STYLE	WDS NO
7/8	LO	6015
1	LO	6015

GUIDE BORE DIAMETER: 3-1/4 3-1/2 3-3/4 4
SHIMS: 2x0.02, 15x0.03

WDS MARLCO PUSH BROACHES - SQUARE METRIC/INCH



Form A



Form B

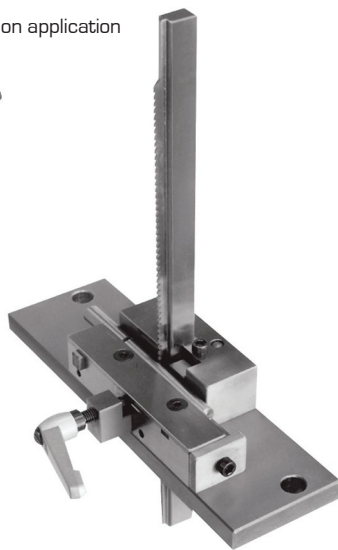
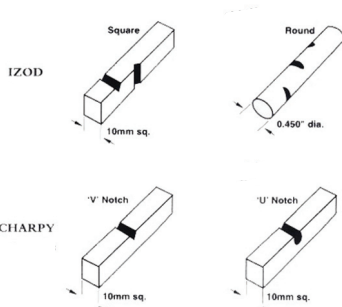


Size	Tolerance	Pilot Dia.	Broach Length	WDS No/Single A	WDS Set B
5	5.000/5.018	5.25	134	6421-205/2	6421-205
6	6.000/6.018	6.6	134	6421-206/2	6421-206
7	7.000/7.022	7.7	146	6421-207/2	6421-207
8	8.000/8.022	8.8	160	6421-208/2	6421-208
9	9.000/9.022	9.8	172	6421-209/2	6421-209
10	10.000/10.027	10.8	184	6421-210/2	6421-210
11	11.000/11.027	11.8	184	6421-211/2	6421-211
12	12.000/12.027	12.8	235	6421-212/2	6421-212
13	13.000/13.027	14.0	240	6421-213/2	6421-213
14	14.000/14.027	15.0	248	6421-214/2	6421-214
15	15.000/15.027	15.6	260	6421-215/2	6421-215
16	16.000/16.027	17.5	267	6421-216/2	6421-216
17	17.000/17.027	18.5	292	6421-217/2	6421-217
18	18.000/18.033	19.5	343	6421-218/2	6421-218
19	19.000/19.033	20.5	343	6421-219/2	6421-219

INCH

3/16"	0.18885/0.1895		5-1/4		6431-03
1/4"	0.2510/0.2520	9/32	5-3/8	6431-04/2	6431-04
5/16"	0.3135/0.3145	11/32	6-3/8	6431-05/2	6431-05
3/8"	0.3760/0.3770	13/32	7	6431-06/2	6431-06
7/16"	0.4385/0.4395	15/32	7-5/8	6431-07/2	6431-07
1/2"	0.5010/0.5020	17/32	9-1/2	6431-08/2	6431-08
9/16"	0.5645/0.5655	19/32	9-3/4	6431-9/2	6431-09
5/8"	0.6270/0.6280	11/16	10-3/8	6431-10/2	6431-10
11/16"	0.6900/0.6910	3/4	13-3/8	6431-11/2	6431-11
3/4"	0.7525/0.7535	13/16	13-5/8	6431-12/2	6431-12

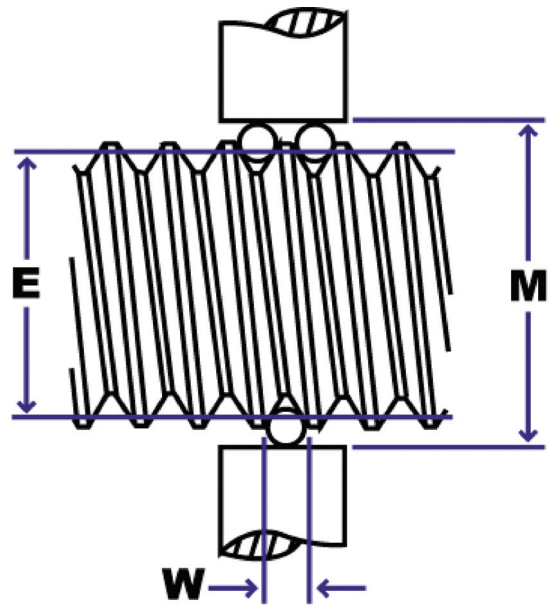
*Hexagon and Notch Broaches available on application



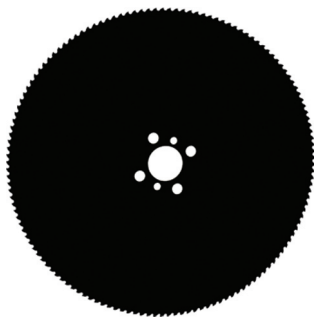
WDS MARLCO THREAD MEASURING PARALLELS



Wds No	mm/TPI	Pitch Range
6601	Metric	0.5-0.75 0.8-1.25 1.5-2 2.5-3.5 4-6mm
6602	B.S.Whitworth	4.5-7 8-13 14-20 22-30 32-40Tpi
6603	Unified/US National	4-7 8-12 13-18 20-28 32-44Tpi
6604	B.A.	0-2BA 3-4BA 5-6BA



CIRCULAR SAW BLADES



DIAMETER (mm)	THICKNESS (mm)	BORE (mm)
200	1.8 / 2	32
225	1.8 / 2.0	32
250	2 / 2.5	32 / 40
275	2 / 2.5	32 / 40
300	2.5	32 / 40
315	2 / 2.5 / 3	32 / 40
350	2.5 / 3	32 / 40 / 50
370	3	32 / 40 / 50
400	3 / 3.5 / 4	40 / 50
425	2.5 / 3 / 3.5	50
450	3 / 3.5	40 / 50
500	3 / 3.5	40 / 50

*RE-SHARPENING AND REPAIRS OFFERED

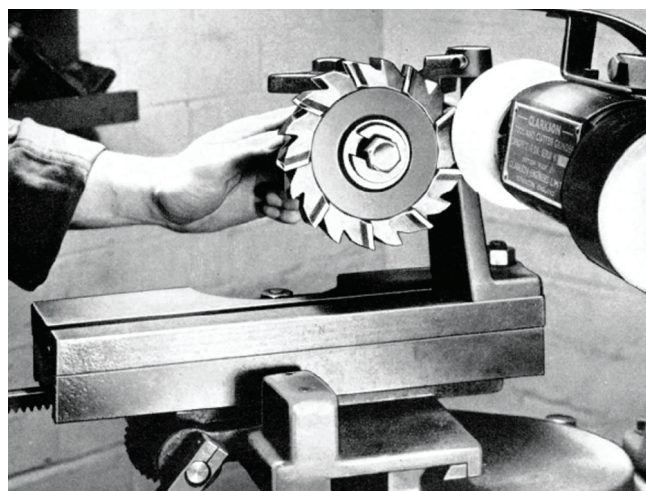
SIDE AND FACE CUTTERS STAGGERED TOOTH



Available on 24HRS delivery

DIAMETER (mm)	THICKNESS (mm)	BORE (mm)	TEETH
50	4.0	16	10
50	5.0	16	10
50	6.0	16	10
50	8.0	16	10
50	10.0	16	10
63	4.0	22	12
63	5.0	22	12
63	6.0	22	12

DIAMETER (mm)	THICKNESS (mm)	BORE (mm)	TEETH
63	8.0	22	12
63	10	22	12
63	12	22	12
63	18	22	12
80	5.0	27	14
80	6.0	27	14
80	8.0	27	14
80	10	27	14
80	12	27	14
80	14	27	14
80	16	27	14
100	8.0	27	16
100	10	27	16
100	12	27	16
100	14	27	16
100	6.0	32	16
100	8.0	32	16
100	10	32	16
100	12	32	16
100	14	32	16
100	16	32	16
125	8.0	32	16
125	10	32	16
125	12	32	16
125	14	32	16
125	16	32	16
125	18	32	16
125	20	32	16
125	22	32	16
125	25	32	16
125	28	32	16
160	8.0	40	18
160	10	40	18
160	12	40	18
160	16	40	18
100	18	32	16
100	20	32	16
100	22	32	16
100	25	32	16

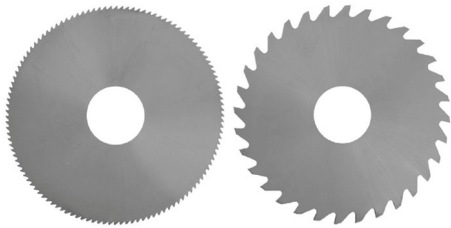


SIDE AND FACE CUTTERS STRAIGHT TOOTH



DIAMETER (mm)	THICKNESS (mm)	BORE (mm)	TEETH
80	5.0	27	14
80	6.0	27	14
80	8.0	27	14
80	10	27	14
80	12	27	14
100	6.0	27	16
100	8.0	27	16
100	12	27	16
100	14	27	16
100	16	27	16
100	20	27	16
100	25	27	16
100	6.0	32	16
100	10	32	16
100	18	32	16
100	20	32	16
125	8.0	32	18
125	10	32	18
125	12	32	18
125	16	32	18
125	18	32	18
125	20	32	18
160	10	32	22

SLITTING SAWS FINE AND COARSE



Available on 24 hour delivery

DIAMETER (mm)	THICKNESS (mm)	BORE (mm)	TEETH
32	0.6	8	64
32	0.8	8	64
32	1.0	8	64
32	1.2	8	48
32	1.6	8	48
32	2.0	8	48
50	0.5	13	100
50	0.6	13	100
50	0.8	13	80
50	1.0	13	80
50	1.2	13	80

DIAMETER (mm)	THICKNESS (mm)	BORE (mm)	TEETH
50	1.6	13	64
50	2.0	13	64
50	2.5	13	64
50	3.0	13	48
63	0.8	16	100
63	1.5	16	80
63	1.6	16	80
63	2.0	16	80
63	2.5	16	64
80	0.3	22	160
80	0.4	22	160
80	0.5	22	128
80	0.6	22	128
80	0.8	22	128
80	1.0	22	100
80	1.2	22	100
80	1.5	22	100
80	1.6	22	100
80	2.0	22	80
80	2.5	22	80
80	3.0	22	80
80	4.0	22	64
80	5.0	22	64
80	6.0	22	64
100	0.5	22	160
100	0.6	22	160
100	0.6	27	160
100	0.8	22	128
100	1.0	22	128
100	1.0	27	128
100	1.2	22	128
100	1.6	22	100
100	2.0	22	100
100	2.5	22	100
100	3.0	22	80
100	4.0	22	80
100	4.0	27	80
100	5.0	22	80
100	6.0	22	64
125	0.6	22	160
125	0.8	22	160
125	1.0	22	160
125	1.2	22	128
125	1.6	22	128
125	2.0	22	128
125	2.5	22	100
125	3.0	22	100
125	4.0	22	100
160	1.0	32	160
160	1.2	32	160
160	1.6	32	160
160	2.0	32	128
160	2.5	32	128
160	3.0	32	128
160	4.0	32	100
160	6.0	32	100
200	1.2	32	200
200	1.6	32	160
200	2.0	32	160
200	3.0	32	128
200	4.0	32	128

END MILLS 2FLUTE REGULAR METRIC



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
1.5	2.5	48	6
2	4	48	6
3	5	49	6
3	5	49	6
3.5	6	50	6
4	7	51	6
4.5	7	51	6
5	8	52	6
5.5	8	52	6
6	8	52	6
6.5	10	60	10
7	10	60	10
7.5	10	60	10
8	11	61	10
8.5	11	61	10
9	11	61	10
9.5	11	61	10
10	13	63	10
10.5	13	70	12
11	13	70	12
11.5	13	70	12
12	16	73	12
13	16	73	12
14	16	73	12
15	16	73	12
16	19	79	16
17	19	79	16
18	19	79	16
19	19	79	16
20	19	79	16
22	26	102	25
24	26	102	25
25	26	102	25
26	26	102	25
28	26	102	25
30	26	102	25
32	32	112	32
35	32	112	32
36	32	112	32
38	38	118	32
40	38	118	32
42	38	118	32
45	38	118	32
50	45	125	32

END MILLS 2FLUTE REGULAR INCH



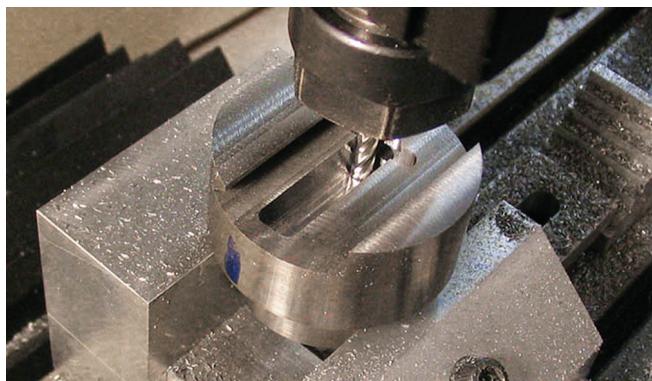
DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
1/16	2.5	4	1/4
1/8	8	51	1/4
3/16	10	52	1/4
1/4	11	56	1/4
5/16	13	60	3/8
3/8	14	60	3/8
7/16	17	65	1/2
1/2	19	67	1/2
9/16	22	69	1/2
5/8	22	72	5/8
3/4	25	77	5/8
7/8	25	100	1
1/16	2.5	4	1/4
1/8	8	51	1/4
3/16	10	52	1/4
1/4	11	56	1/4
5/16	13	60	3/8
3/8	14	60	3/8
7/16	17	65	1/2
1/2	19	67	1/2
9/16	22	69	1/2
5/8	22	72	5/8
3/4	25	77	5/8
7/8	25	100	1
1	27	95	1
1-1/8	30	95	1
1-1/4	35	117	1-1/4
1-3/8	40	111	1-1/4
1-1/2	43	115	1-1/4
1-5/8	48	118	1-1/4
1-3/4	48	118	1-1/4
1-7/8	51	118	1-1/4



END MILLS 2FLUTE LONG SERIES



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
2	4	51	6
2.5	6.5	54	6
3	11	60.5	6
3.5	12.5	66.5	6
4	12.5	66.5	6
4.5	12.5	66.5	6
5	12.5	70	6
5.5	16	76	6
6	16	76	6
6.5	16	76	10
7	16	76	10
7.5	16	76	10
8	19	79.5	10
8.5	22	82.5	10
9	22	82.5	10
9.5	22	82.5	10
10	22	82.5	10
11	22	89	12
12	25.5	95	12
13	25.5	95	12
14	28.5	101.5	12
15	31.5	108	12
16	31.5	108	16
17	35	114.5	16
18	35	114.5	16
19	38	120.5	16
20	38	120.5	16
22	41.5	140	25
24	41.5	152.5	25
25	44.5	159	25
26	44.5	159	25
28	47.5	159	25
30	51	159	25
32	51	159	32
35	54	159	32
36	54	159	32
38	57	159	32
40	63.5	159	32
42	63.5	159	32
45	63.5	159	32
50	63.5	159	32



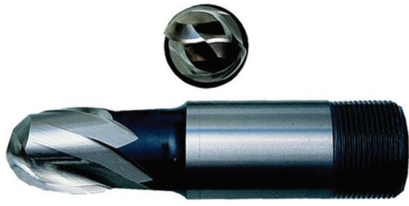
END MILLS 2FLUTE LONG SERIES INCH



DIAMETER (Inch)	FL (mm)	O/L (mm)	SHANK (Inch)
1/8	11	64	1/4
3/16	13	70	1/4
1/4	16	76	1/4
5/16	19	79	3/8
3/8	22	83	3/8
7/16	22	89	1/2
1/2	25	95	1/2
9/16	29	102	1/2
5/8	32	108	5/8
3/4	38	121	5/8
7/8	42	140	1
1	44	159	1
1-1/8	48	159	1
1-1/4	51	159	1-1/4
1-3/8	54	159	1-1/4
1-1/2	57	159	1-1/4
1-5/8	64	159	1-1/4
1-3/4	64	159	1-1/4
1-7/8	64	159	1-1/4
2	64	159	1-1/4

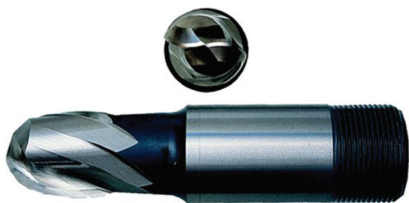


END MILLS 2FLUTE REGULAR BALL NOSE



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
2	4	48	6
3	5	49	6
4	7	51	6
5	8	52	6
6	8	52	6
7	10	60	10
8	11	61	10
9	11	61	10
10	13	63	10
11	13	70	12
12	16	73	12
13	16	73	12
14	16	73	12
15	16	73	12
16	19	79	16
17	19	79	16
18	19	79	16
20	19	79	16
22	26	102	25
24	26	102	25
25	26	102	25
28	26	102	25
30	26	102	25
32	32	112	32
35	32	112	32
36	32	112	32
38	38	118	32
40	38	118	32
42	38	118	32
45	38	118	32
50	45	125	32

END MILLS 2FLUTE REGULAR BALL NOSE INCH



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
1/8	8	51	1/4
3/16	10	52	1/4

DIAMETER (Inch)	FL (mm)	O/L (mm)	SHANK (Inch)
1/4	11	56	1/4
5/16	13	60	3/8
3/8	14	60	3/8
7/16	17	65	1/2
1/2	19	67	1/2
5/8	22	72	5/8
3/4	25	77	5/8
7/8	25	100	1
1	27	95	1
1-1/8	30	95	1
1-1/4	35	117	1-1/4
1-3/8	40	111	1-1/4
1-1/2	43	115	1-1/4
1-5/8	48	118	1-1/4
1-3/4	48	118	1-1/4
1-7/8	51	118	1-1/4
2	51	118	1-1/4



END MILLS 2FLUTE LONG SERIES BALL NOSE



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
2	4	51	6
3	11	60.5	6
4	12.5	66.5	6
5	12.5	70	6
6	16	76	6
7	16	76	10
8	19	79.5	10
9	22	82.5	10
10	22	82.5	10
11	22	89	12
12	25.5	95	12
13	25.5	95	12
14	28.5	101.5	12
15	31.5	104.5	12
16	31.5	108	16
18	35	114.5	16
20	38	120.5	16
22	41.5	140	25
24	41.5	152.5	25
25	44.5	159	25
28	47.5	159	25
30	51	159	25
32	51	159	32
35	54	159	32
38	57	159	32
40	63.5	159	32
45	63.5	159	32
50	63.5	159	32

END MILLS 2FLUTE LONG SERIES BALL NOSE INCH



DIAMETER (Inch)	FL (mm)	O/L (mm)	SHANK (Inch)
1/8	11	64	1/4
3/16	13	70	1/4
1/4	16	76	1/4
5/16	19	79	3/8
3/8	22	83	3/8
7/16	22	89	1/2
1/2	25	95	1/2
5/8	32	108	5/8
3/4	38	121	5/8
7/8	42	140	1
1	44	159	1
1-1/8	48	159	1

DIAMETER (Inch)	FL (mm)	O/L (mm)	SHANK (Inch)
1-1/4	51	159	1-1/4
1-3/8	54	159	1-1/4
1-1/2	57	159	1-1/4
1-3/4	64	159	1-1/4
2	64	159	1-1/4

END MILLS 3FLUTE REGULAR



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
3	9.5	54	6
4	12.5	57	6
5	16	60.5	6
6	16	60.5	6
7	15	60.5	10
8	18	66.5	10
9	21	66.5	10
10	21	66.5	10
11	19	66.5	12
12	24	70	12
13	24.5	70	12
14	28.5	73	12
15	26.5	71	12
16	26.5	77	16
18	35	80	16
19	38	83.5	16
20	38	83.5	16
22	41.5	98.5	25
25	44.5	101.5	25

END MILLS 3 FLUTE LONG SERIES



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)
6	31.5	76	6
8	34	79.5	10
10	37	82.5	10
12	49.5	95	12
14	57	101.5	12
16	58.5	108.5	16
18	70	115	16
20	76	121.5	16
22	85.5	143	25
25	100	157	25

END MILLS MULTI FLUTE REGULAR METRIC



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)	TEETH
2.5	6.5	51	6	4
3	9.5	54	6	4
3.5	12.5	57	6	4
4	12.7	57	6	4
4.5	12.5	57	6	4
5	16	60.5	6	4
5.5	16	60.5	6	4
6	16	60.5	6	4
6.5	16	60.5	10	4
7	15	60.5	10	4
7.5	18	63.5	10	4
8	18	63.5	10	4
8.5	21	66.5	10	4
9	21	66.5	10	4
9.5	21	66.5	10	4
10	21	66.5	10	4
10.5	19	66.5	12	4
11	19	66.5	12	4
12	24	70	12	4
13	24.5	70	12	4
14	28.5	73	12	4
15	26.5	71	12	4
16	26.5	77	16	4
18	35	80	16	4
19	38	83.5	16	4
20	38	83.5	16	4
22	41.5	98.5	25	6
24	41.5	98.5	25	6
25	44.5	101.5	25	6
28	46	104.5	25	6
30	46	104.5	25	6
32	51	112.5	32	6
35	54	116	32	6
38	54	116	32	6
40	55.5	117.5	32	6
45	57	119	32	6
50	65	127	32	6

END MILLS MULTI FLUTE REGULAR INCH



DIAMETER (inch)	FL (mm)	O/L (mm)	SHANK (Inch)	TEETH
1/4	16	60	1/4	4
1/8	10	54	1/4	4
3/16	13	57	1/4	4

DIAMETER (inch)	FL (mm)	O/L (mm)	SHANK (Inch)	TEETH
5/16	18	64	1/4	4
3/8	22	67	1/4	4
7/16	22	67	1/2	4
1/2	24	70	1/2	4
9/16	29	73	1/2	4
5/8	32	77	5/8	4
3/4	38	83	5/8	4
7/8	41	98	1	6
1	43	102	1	6
1-1/8	46	105	1	6
1-1/4	51	113	1-1/4	6
1-3/8	54	116	1-1/4	6
1-1/2	54	116	1-1/4	6
1-5/8	54	116	1-1/4	8
1-3/4	57	119	1-1/4	8
1-7/8	62	124	1-1/4	8
2	65	127	1-1/4	8

END MILLS MULTI FLUTE LONG SERIES METRIC



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)	TEETH
3	19	63.5	6	4
4	25.5	70	6	4
5	31.5	76	6	4
6	31.5	76	6	4
7	34	79.5	10	4
8	34	79.5	10	4
9	37	82.5	10	4
10	37	82.5	10	4
11	41.5	89	12	4
12	49.5	95	12	4
13	50	95	12	4
14	57	101.5	12	4
15	58.5	103	12	4
16	58.5	108.5	16	4
18	70	115	16	4
19	78	121.5	16	4
20	76	121.5	16	4
22	85.5	143	25	6
24	92	149	25	6
25	100	157	25	6
28	98.5	157	25	6
30	98.5	157	25	6
32	101.5	163.5	32	6
35	101.5	163.5	32	6
38	101.5	163.5	32	6
40	101.5	163.5	32	6
45	101.5	163.5	32	6
50	101.5	163.5	32	6

END MILLS MULTI FLUTE LONG SERIES INCH



DIAMETER (Inch)	FL (mm)	O/L (mm)	SHANK (Inch)	TEETH
1/8	19	64	1/4	4
3/16	25	70	1/4	4
1/4	32	76	1/4	4
5/16	34	79	3/8	4
3/8	37	83	3/8	4
7/16	42	89	3/8	4
1/2	49	95	3/8	4
9/16	57	102	3/8	4
5/8	59	109	5/8	4
3/4	76	121	5/8	4
7/8	86	143	1	6
1	100	157	1	6
1-1/8	100	157	1	6
1-1/4	102	164	1-1/4	6
1-3/8	102	164	1-1/4	6
1-1/2	102	164	1-1/4	6
1-5/8	102	164	1-1/4	8
1-3/4	102	164	1-1/4	8
1-7/8	102	164	1-1/4	8
2	102	164	1-1/4	8

END MILLS ROUGHING REGULAR



DIAMETER (mm)	FL (mm)	O/L (mm)	SHANK (mm)	TEETH
6	16	60.5	6	4
8	18	63.5	10	4
10	21	66.5	10	4
12	24	70	12	4
14	28.5	73	12	4
16	26.5	77	16	4
20	38	83.5	16	4
22	41.5	98.5	25	5
25	44.5	101.5	25	5
28	46	104.5	25	5
30	46	104.5	25	5
32	51	112.5	32	6
35	54	116	32	6
38	54	116	32	6
40	55.5	117.5	32	6
45	57	119	32	6
50	65	127	32	7

CORNER ROUNDING CUTTERS



RADIUS	DIA (mm)	SHANK (mm)	O/LENGTH (mm)
2	10	10	60
3	12	12	60
4	14	12	60
5	16	12	60
6	20	16	67
8	24	16	71
10	28	25	85
12	34	25	90
14	44	25	100
16	48	25	100
20	56	32	112

WOODRUFF CUTTERS INCH



DIA (Inch)	WIDTH (Inch)	O/LENGTH (mm)	SHANK (Inch)	TEETH
1/2	1/16	56	1/2	8
1/2	3/32	56	1/2	8
1/2	1/8	56	1/2	8
5/8	3/32	56	1/2	8
5/8	1/8	56	1/2	8
5/8	5/32	56	1/2	8
3/4	1/8	56	1/2	8
3/4	5/32	56	1/2	8
3/4	3/16	56	1/2	8
7/8	5/32	64	1/2	8
7/8	3/16	64	1/2	8
7/8	1/4	64	1/2	8
1	3/16	70	1/2	8
1	1/4	70	1/2	8
1	5/16	70	1/2	8
1-1/8	3/16	70	1/2	8
1-1/8	1/4	70	1/2	8
1-1/8	5/16	70	1/2	8
1-1/4	1/4	70	1/2	8
1-1/4	5/16	70	1/2	8
1-1/4	3/8	70	1/2	8
1-3/8	1/4	76	1/2	10
1-3/8	5/16	76	1/2	10
1-3/8	3/8	76	1/2	10
1-1/2	1/4	76	1/2	10
1-1/2	5/16	76	1/2	10
1-1/2	3/8	76	1/2	10

WOODRUFF CUTTERS METRIC



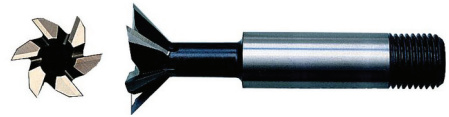
DIA (mm)	WIDTH (mm)	O/LENGTH (mm)	SHANK (mm)	TEETH
10.5	2	56	12	8
10.5	2.5	56	12	8
10.5	3	56	12	8
13.5	3	56	12	8
13.5	4	56	12	8
16.5	3	56	12	8
16.5	4	56	12	8
16.5	5	56	12	8
19.5	4	57	12	8
19.5	5	57	12	8
19.5	6	57	12	8
22.5	5	64	12	8
22.5	6	64	12	8
22.5	8	64	12	8
25.5	6	70	12	8
28.5	6	70	12	8
28.5	8	70	12	8
28.5	10	70	12	8
32.5	7	70	12	8
32.5	8	70	12	8
32.5	10	70	12	8
45.5	10	76	12	12

T-SLOT CUTTERS



BOLT SIZE (mm)	DIA (mm)	WIDTH (mm)	SHANK (mm)	O/LENGTH (mm)	TEETH
6	12.5	6	5	55	6
8	16	8	7	60	6
10	18	8	8	62	6
12	21	9	10	68	6
14	25	11	12	70	8
16	28	12	13	75	8
18	32	14	15	90	8
20	36	16	17	95	10
22	40	18	19	100	10

DOVETAIL CUTTERS HSS-CO



BODY (mm x DEG)	BODY W (mm)	SHANK (mm)	O/LENGTH (mm)
16X45	4	12	60
20X45	5	12	63
25X45	6.3	12	67
32X45	8	16	71
40X45	10	16	71
16X60	6.3	12	60
20X60	8	12	63
25X60	10	12	67
32X60	12.5	16	71
40X60	16	16	71

INVERTED DOVETAIL CUTTERS HSS-CO



BODY (mm x DEG)	BODY W (mm)	SHANK (mm)	O/LENGTH (mm)
16X45	4	12	60
20X45	5	12	63
25X45	6.3	12	67
32X45	8	16	71
40X45	10	16	71
16X60	6.3	12	60
20X60	8	12	63
25X60	10	12	67
32X60	12.5	16	71
40X60	16	16	71

SOLID CARBIDE CUTTERS

2 FLUTE SOLID CARBIDE END MILLS 1 - 20mm



4 FLUTE SOLID CARBIDE END MILLS 2 - 20mm



4 FLUTE SOLID CARBIDE BALL NOSE END MILL LONG SERIES 1 - 20mm



2 FLUTE SOLID CARBIDE BALL NOSE END MILL REGULAR 1 - 20mm



2 FLUTE SOLID CARBIDE BALL NOSE END MILL LONG SERIES 1 - 20mm

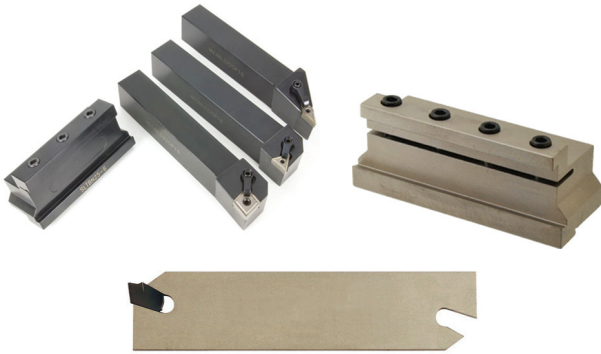


INSERTS



WD HEARN STOCKS A COMPREHENSIVE RANGE OF INSERTS. PLEASE CONTACT FOR FURTHER INFORMATION
+27(0) 21 534 5352

TOOL HOLDERS



ITEM NO.	DESC.
3601316	MWLN R 2525M-08W
5510202	WNMG 080408-M3M IC6025
2300767	SGTBU 25-6G
2301743	TGFH 32-3/SGIH 32-3
6003367	TAG N3C IC908
3800006	SER 2525 M16
5901519	16ERM AG 60 IC908
3600851	S08K SCLCR-06
3600852	S10L SCLCR-06
5504873	CCMT 060204-SM IC907
3601157	S16Q SCLCR-09
5504773	CCMT 09T304-SM IC907

GROUND CARBIDE RODS



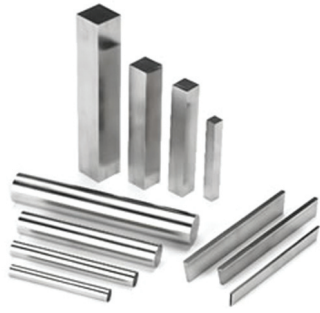
CODE	OD (MM)	O/L (MM)
GR2	2	100
GR3	3	100
GR4	4	100
GR5	5	100
GR6	6	330
GR7	7	330
GR8	8	330
GR9	9	
GR10	10	
GR11	11	
GR12	12	
GR14	14	
GR16	16	
GR18	18	
GR20	20	
GR22	22	
GR25	25	
GR27	27	

BRAZED TOOLS



AVAILABLE ON REQUEST

SQUARE TOOLBITS

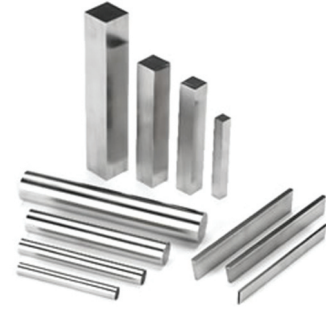


METRIC

SIZE (mm)	LENGTH (mm)	SIZE (Inch)	LENGTH (Inch)
4	63	3/16	2 1/2
5	100	1/4	4
6	100	5/16	4
8	100	3/8	4
10	100	1/2	4
12	100	5/8	6
16	160	3/4	6
20	160	1	8
25	200		

IMPERIAL

RECTANGULAR TOOLBITS



WIDTH (mm)	HEIGHT (mm)	LENGTH (mm)
4	6	100
4	8	100
5	8	100
5	10	100
6	10	100
6	10	200
6	12	160
6	12	200
8	12	160
8	12	200
8	16	160
8	16	200
10	16	160
10	16	200
10	20	160
10	20	200
12	20	160
12	20	200
12	25	200
16	25	200

ROUND TOOLBITS



METRIC

DIA (mm)	LENGTH (mm)	DIA (Inch)	LENGTH (Inch)
3	63	1/8	2 1/2
4	100	3/16	2 1/2
6	100	1/4	4
8	100	5/16	4
10	100	3/8	4
12	160	5/8	4 1/2
16	160	3/4	5
20	200		
25	200		

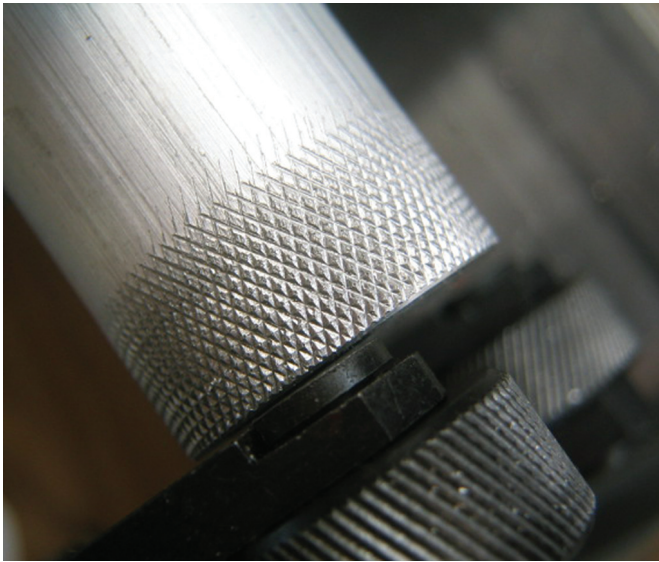
IMPERIAL

PARTING BLADES



DOUBLE BEVEL

WIDTH (mm)	HEIGHT (mm)	LENGTH (mm)
3	12	120
3	16	140
4	18	140
3	20	140
4	20	140
4	25	250
6	25	250

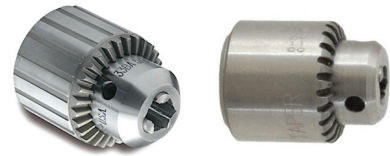


INTEGI KNURLING TOOLS



CODE	CAPACITY (mm)	KNURL SIZE (mm)	SIZE (mm)
M1	DIA8-200	20 X 8 X 6	112 X 14 X 14
M7	DIA8-200	20 X 8 X 6	162 X 25 X 18
M2	DIA8-200	20 X 8 X 6	180 X 25 X 25

JACOBS KEY TYPE DRILL CHUCKS



CODE	MODEL NO.	CAPACITY (mm)	CHUCK KEY	MOUNT
6200	0	0.711-4	K0	0JT
6206	1A	0.711-6.5	K1	1JT
6214	2A	0.711-10	K2	2JT
14697	31-01	0.711-10	K30	1JT
14698	31-02	0.711-10	K30	2JT
3109	41BA1/2	0.711-10	K30	1/2"-20
14442	34-02	0.711-13	K3	2JT
6295	34-06	0.711-13	K3	6JT
1445	34-33	0.711-13	K3	33JT
6279	33	2-13	K32	33JT
6287	33BA1/2	2-13	K32	1/2"-20
6283	33BA3/8	2-13	K32	3/8"-24
6289	33BA5/8	2-13	K32	5/8"-16
6223	3A	3-16	K3	3JT
6232	3B5/8	3-16	K3	5/8"-16
14723	35B1/2	4-16	K3	1/2"-20
6309	36	5-20.3	K4	3JT
6316	36B3/4	5-20.3	K4	3/4"-16
6314	36B5/8	5-20.3	K4	5/8"-16

JACOBS CHUCK KEYS

KK, K0, K1, K2, K3, K4, K5, K7, KG, K30, K32, S2, S3



KEYLESS CHUCKS



Code	Model No	Capacity (mm)	Mount
3023	J6.53/8	0-6.5	3/8"x24
3043	J13JT6	1-13	6JT
3045	J13B16	1-13	B16
3051	J16JT6	3-16	6JT
3053	J16B16	3-16	B16

CHUMPOWER KEY TYPE DRILL CHUCKS



CODE	MODEL NO.	CAPACITY (mm)	CHUCK KEY	MOUNT
6323	11301-1	0.3-6.5	T2	1JT
63231	11302-1	1-10	T2	2JT
6324	11304-2	0.3-13	T3	6JT
6325	11305-2	3-16	T3	3JT
6326	11306-1	4-19	T4	3JT

CHUMPOWER CHUCK KEYS

T2 , T3 , T4



CHUMPOWER KEYLESS CHUCKS



CODE	MODEL NO	CAPACITY (mm)	MOUNT
63262	12303-0	0.3-10	2JT
63260	12203-2	0-13	6T6
63261	12203-4	0-13	B16
6327	12205-3	3-16	B16
6328	12205-1	3-16	6JT

INTEGRAL KEYLESS DRILL CHUCK



CODE	MODEL NO	CAPACITY (mm)
BT40	APU8-85	1-8
BT40	APU13-110	1-13
BT40	APU16-130	3-16

DRILL CHUCK ARBORS



CODE	DESCRIPTION
7299	1 Morse Taper x 1JT
7300	1 Morse Taper x 2JT
7303	1 Morse Taper x 6JT
7304	1 Morse Taper x 33JT
7306	2 Morse Taper x 1JT
7307	2 Morse Taper x 2JT
7308	2 Morse Taper x 3JT
7311	2 Morse Taper x 6JT
7312	2 Morse Taper x 33JT
7314	3 Morse Taper x 2JT
7315	3 Morse Taper x 3JT
7316	3 Morse Taper x 4JT
7318	3 Morse Taper x 6JT
7319	3 Morse Taper x 3JT
7321	4 Morse Taper x 3JT
7322	4 Morse taper x 4JT
7323	4 Morse Taper X 5JT
7324	4 Morse Taper x 6JT

DRILL CHUCK ARBOR



THREADED SHANK ARBOR TO DRILL CHUCK TAPER

TYPE	DESCRIPTION	LENGTH(mm)
7350	1/2" X 2JT	90
7353	1/2" X 6JT	93
7368	1" X 6JT	106

THREADED SHANK ARBOR TO MORSE TAPER

TYPE	DESCRIPTION	LENGTH(mm)
7345	2MT-3/8 X 24	94
7346	2MT-1/2 X 20	103
7024116	3MT-3/8 X 24	113
7024117	3MT-1/2 X 20	122
7024118	3MT-5/8 X 16	125
7024119	3MT-3/4 X 16	125

STRAIGHT SHANK DRILL CHUCK ARBOR



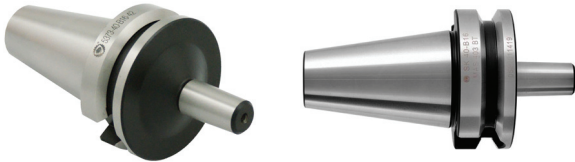
TYPE	DIA (mm)	LENGTH (mm)
C20 X JT6	20	80

ISO DRILL CHUCK ARBOR



CODE	DESCRIPTION
30JT6	ISO30-JTA6
40JT3	ISO40-JT3
40JT6	ISO40-JT6
40JTB16	ISO40-B16

BT DRILL CHUCK ARBOR



CODE	DESCRIPTION
BT30B16	BT30-B16
BT40JT2	BT40-JT2
BT40JT3	BT40-JT3
BT40JT6	BT40-JT6
BT40B16	BT40-B16

R8 DRILL CHUCK ARBOR



CODE	DESCRIPTION
R8J6	R8 ARBOR-JT6
R8B16	R8 ARBOR -B16

MORSE TAPER SLEEVES



CODE	EXT TAPER	INTERNAL TAPER
30421	1	0
30423	3	1
30424	3	1
30427	4	1
30426	4	2
304251	4	3
30430	5	2
30429	5	3
30428	5	4

EXTENSION SOCKETS MORSE TAPER



OUTSIDE MTS	INSIDE MTS	LENGTH (mm)
1	1	145
1	2	160
2	1	160
2	2	178
2	3	196
3	2	194
3	3	215
3	4	240
4	2	215
4	3	240
4	4	265
4	5	300
5	3	268
5	4	300
5	5	335
6	3	330
6	4	355
6	5	390



R8 DRILL SLEEVES



CODE	SHANK	SIZE	TAPER
R8M2	R8	R8-MT2	MT2
R8M3	R8	R8-MT3	MT3

R8 COLLETS - 7/16 THREAD



MODEL	SIZE(mm)
R8-6	6
R8-8	8
R8-10	10
R8-12	12
R8-16	16
R8-20	20

MT3 COLLETS - M12 X 1.75 THREAD



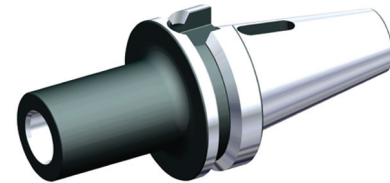
MODEL	SIZE(mm)
MT3-6	6
MT3-10	10
MT3-12	12
MT3-16	16
MT3-20	20

ISO MORSE TAPER ADAPTOR



CODE	SHANK	SIZE(mm)	TAPER
30MT2	ISO30	ISO30-MT2	MT2
30MT3	ISO30	ISO30-MT3	MT3
40MT2	ISO40	ISO40-MT2	MT2
40MT3	ISO40	ISO40-MT3	MT3
40MT4	ISO40	ISO40-MT4	MT4

BT MORSE TAPER ADAPTOR



CODE	SHANK	SIZE(mm)	TAPER
BT40MT1	BT40	BT40-MT1	MT1
BT40MT2	BT40	BT40-MT2	MT2
BT40MT3	BT40	BT40-MT3	MT3
BT40MT4	BT40	BT40-MT4	MT4

40 ISO R8 REDUCING ADAPTOR



OUTSIDE TAPER
40ISO

INSIDE TAPER
R8

R8 FACE MILL ARBOR



CODE	TAPER	SPIGOT DIA (mm)	DRAW BAR
R8FMB22	R8	22	7/16UNF
R8FMB27	R8	27	7/16UNF
R8FMB32	R8	32	7/16UNF

MORSE TAPER FACE MILL ARBOR



CODE	TAPER	SPIGOT DIA (mm)	DRAW BOLT
MT3FMB22	3MT	22	M12 X 1.75
MT3FMB27	3MT	27	M12 X 1.75

ISO FACE MILL ARBOR



CODE	TAPER	SPIGOT DIA (mm)	DRAW BOLT
ISO30FMB22	ISO30	22	M12 X 1.75
ISO30FMB27	ISO30	27	
ISO40FMB22	ISO40	22	M16 X 2.0
ISO40FMB27	ISO40	27	
ISO40FMB32	ISO40	32	
ISO40FMB40	ISO40	40	

R8 ISO40 LONG MILLING ARBOR



SUPPLIED ON REQUEST

BT40 FACE MILL ARBOR



CODE	TAPER	SPIGOT DIA (mm)
BT40FMB22-45	BT40	22
BT40FMB27-045	BT40	27
BT40FMB32-45	BT40	32
BT40FMB40-45	BT40	40

ISO SIDE LOCK HOLDERS



CODE	SHANK	DIAMETER (mm)
40SL06	ISO40	6
40SL08	ISO40	8
40SL10	ISO40	10
40SL12	ISO40	12
40SL16	ISO40	16
40SL20	ISO40	20
40SL25	ISO40	25
40SL32	ISO40	32
40SL40	ISO40	40

BT SIDE LOCK HOLDERS



CODE	SHANK	DIAMETER (mm)
BT40SLA6	BT40	6mm
BT40SLA8	BT40	8mm
BT40SLA10	BT40	10mm
BT40SLA12	BT40	12mm
BT40SLA16	BT40	16mm
BT40SLA20	BT40	20mm
BT40SLA25	BT40	25mm
BT40SLA32	BT40	32mm
BT40SLA40	BT40	40mm

STRAIGHT SHANK COLLET CHUCK

C16, C20, C25, C32



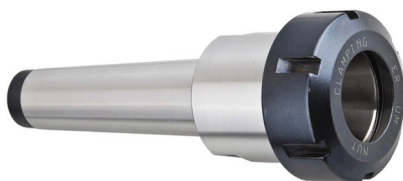
CODE	SHANK (mm)	COLLET TYPE	RANGE (mm)
C16ER11	16	ER11	1-7
C16ER16	16	ER16	1-10
C20ER16	20	ER16	1-10
C20ER20	20	ER20	2-13
C25ER32	25	ER32	3-20
C32ER32	32	ER32	3-20

R8 ER COLLET CHUCKS



CODE	TAPER	COLLET TYPE	RANGE (mm)
ER32R8	R8	ER32	3-20
ER40R8	R8	ER40	3-26

MORSE TAPER ER COLLET CHUCKS



CODE	TAPER	COLLET TYPE	RANGE (mm)
ER32M3	3MT	ER32	3-20
ER32M4	4MT	ER32	3-20

ISO ER COLLET CHUCKS



CODE	TAPER	COLLET TYPE	RANGE (mm)
40ER32	ISO40	ER32	3-20
40ER40	ISO40	ER40	3-26

BT ER COLLET CHUCKS



CODE	TAPER	COLLET TYPE	RANGE (mm)
BT40ER16-70	BT40	ER16	1-10
BT40ER20-80	BT40	ER20	2-13
BT40ER25-80	BT40	ER25	2-16
BT40ER32-60	BT40	ER32	3-20
BT40ER32-100	BT40	ER32	3-20
BT40ER40-80	BT40	ER40	3-26

ER COLLETS



ER11	- 11.5 -18- 1,1.5,2,2.5,3,3.5,4,4.5,5,5.5, 6,6.5,7mm
ER16	- 17-27-1,2,3,4,5,6,7,8,9,10mm
ER20	- 21-31-2,3,4,5,6,7,8,9,10,11,12,13mm
ER25	- 26-35-2,3,4,5,6,7,8,9,10,11,12,13 14,15,16mm
ER32	- 33-40-3,4,5,6,7,8,9,10,11,12,13,14, 15,16,17,18,19,20mm
ER40	- 41-46-4,5,6,7,8,9,10,11,12,13,14,15, 16,17,18,19,20,21,22,23,24,25,26mm

ER FRONT NUTS



ER11
ER16
ER25
ER32
ER40

ER WRENCH



MODEL	FIG	LENGTH (mm)	COLLET TYPE
ER11	1	95	ER11
ER16	1	117	ER16
ER20	1	127	ER20
ER25	1	206	ER25
ER32	2	253	ER32
ER40	2	289	ER40

TENSION & COMPRESSION TAPPING CHUCK

TER TAPPING CHUCKS



CODE	SHANK	COLLET TYPE	RANGE
C25-TER16	25mm	GBER16	M3-M12
C25-TER	25mm	GBER25	M5-M16
BT40TER32	BT40	GBER32	M8-M27

ER TAP COLLETS



ISO / DIN

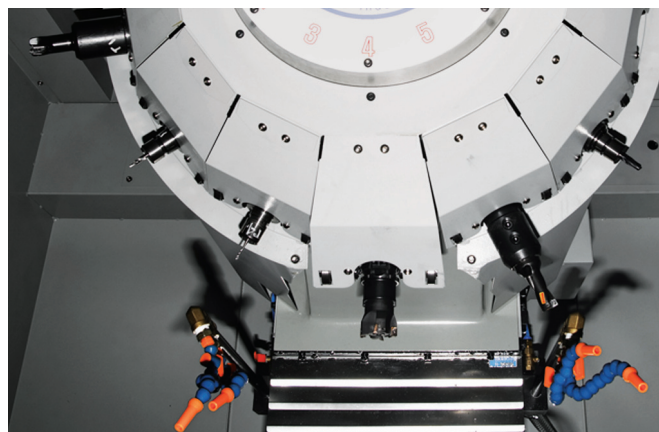
CODE	SIZE	SHANK (mm)	SQUARE (mm)
ER16 - ISO	M3/4	3.15	2.5
ER16 - ISO	M5	4.0	3.15
ER16 - ISO	M6	6.3	5.0
ER16 - ISO	M8	8.0	6.3
ER16 - ISO	M10	10.0	8.0
ER16 - ISO	M12	9.0	7.1
ER32 - ISO	M6	6.3	5.0
ER32 - ISO	M8	8.0	6.3
ER32 - ISO	M10	10.0	8.0
ER32 - ISO	M12	9.0	7.1
ER32 - ISO	M12	12.5	10
ER32 - DIN371	M6	6.0	4.9
ER32 - DIN371	M8	8.0	6.2
ER32 - DIN376	M16	12	9.0

TENSION & COMPRESSION TAPPING CHUCK

ATP COLLET CHUCKS



CODE	SHANK	COLLET TYPE	RANGE
BT40ATP312	BT40	ATC312/ZK12	M3-M12



ATC TAP COLLETS



ISO

CODE	SIZE	SHANK (mm)	SQUARE (mm)
ATC312	M3	3.15	2.5
ATC312	M4	4.0	3.15
ATC312	M5	5.0	4.0
ATC312	M6	6.5	5.0
ATC312	M8	8.0	6.3
ATC312	M10	10	8.0
ATC312	M12	9.0	7.1

DIN

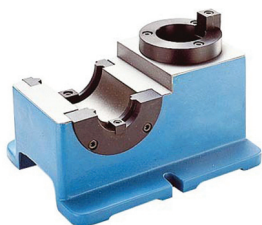
CODE	SIZE	SHANK (mm)	SQUARE (mm)
ATC312	M3	3.5	2.7
ATC312	M4	4.5	3.4
ATC312	M5	6.0	4.9
ATC312	M6	6.0	4.9
ATC312	M8	8.0	6.2
ATC312	M10	10	8.0

PULL STUDS



MODEL	TYPE
P323-1	JIS 6399 - THROUGH COOLANT
MAS403	BT30 45
MAS403	BT40 45

TOOL LOCKING DEVICE



TAPER SHANK	MODEL NO.
MAS403-BT	BT30
MAS403-BT	VTD-1 BT40 DELUXE

TOOL SHEATH



MODEL NO.	SIZE(mm)	SHANK
#40 TOOL SHEATH	74W x 137D x 63H	BT40/ISO40/ CAT40/NC40

AUTOLOCK COLLETS



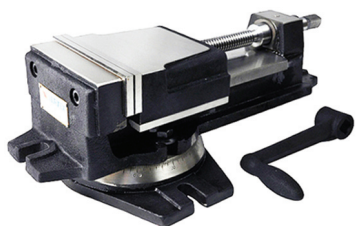
CODE	SIZE
40M71	M6
40M72	M10
40M73	M12
40M74	M16
40M77	M25
40M78	M32

POSI LOCK COLLETS



CODE	SIZE
POSI 6	M6
POSI 10	M10
POSI 12	M12
POSI	M16

K-TYPE SWIVEL BASE MACHINE VICE



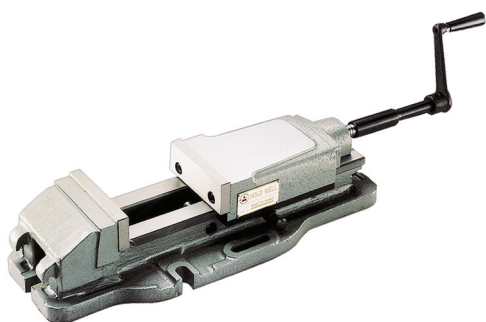
MODEL	JAW WIDTH (mm)	JAW HEIGHT (mm)	JAW OPENING (mm)	LGTH (mm)	WEIGHT (Kg)
SKV-4"	100	38	62	320	12
SKV-6"	150	43	115	450	32

PRECISION ANGLE LOCK MACHINE VICE



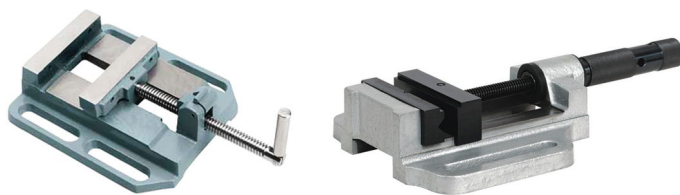
MODEL	JAW WIDTH (mm)	JAW HEIGHT (mm)	JAW OPENING (mm)	LGTH (mm)	WEIGHT (Kg)
SAV-4	100	38	110	320	19
SAV-6	150	48	150	450	48
SAV-8	200	58	210	600	82

HYDRAULIC MACHINE VICE

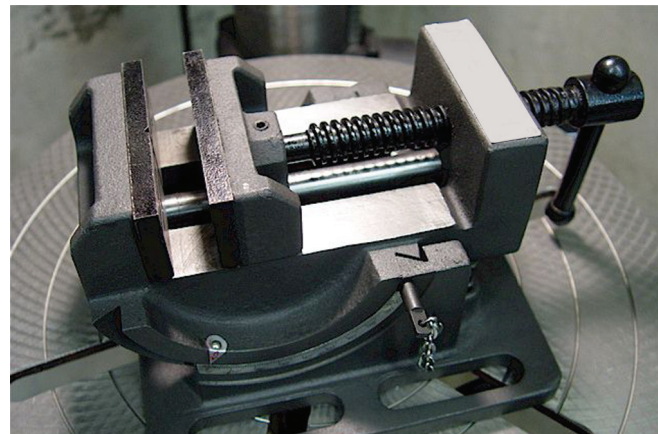
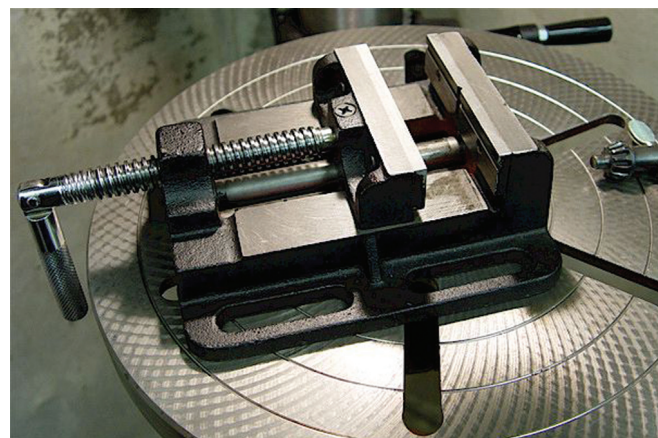
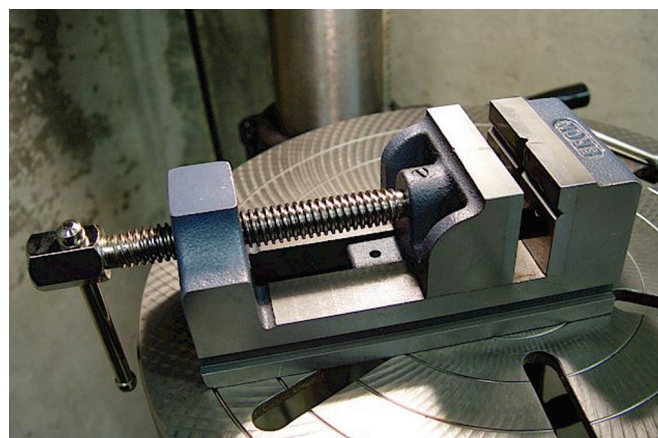


MODEL	JAW WIDTH (mm)	JAW HEIGHT (mm)	JAW OPENING (mm)	LGTH (mm)	WEIGHT (Kg)
HP-4	100	36	170	525	16
HP-5	125	46	220	670	32
HP-6	150	51	300	800	51
HP-8	200	65	300	900	90

DRILL PRESS VICE



MODEL	JAW WIDTH (mm)	JAW HEIGHT (mm)	JAW OPENING (mm)	WEIGHT (Kg)
GS106-4	104	31	95	3.5
GS102-5	130	38	116	8.2

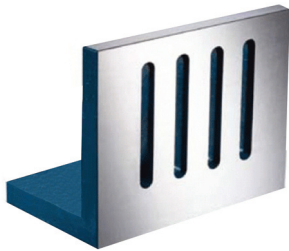


GROUND PARALLELS



MODEL	NO OF PAIRS	SIZES (mm)
GP100	9	5 X 16 X 100 X 2
GP100	9	6 X 18 X 100 X 2
GP100	9	8 X 24 X 100 X 2
GP100	9	10 X 30 X 150 X 2
GP100	9	12 X 36 X 150 X 2
GP100	9	14 X 48 X 150 X 2
GP100	9	18 X 60 X 150 X 2
GP100	9	22 X 62 X 150 X 2
GP100	9	15 X 31 X 2.5 X 200 X 2

ANGLE PLATES OPEN END SLOTTED



MODEL	LENGTH	HEIGHT	BREADTH
70440	6"	5"	4 1/2"
70442	8"	6"	5"
70445	12"	9"	8"

HORIZONTAL VERTICAL ROTARY TABLES



CODE	DIA (mm)	HEIGHT (mm)	BASE (mm)	MT	GEAR RATIO
HV-6	150	72	205 X 163	2	90:1
HV8	200	80	265 X 219	3	90:1
HV10	254	109	321 X 276	3	90:1
HV12	305	125	388 X 330	4	90:1

SEMI-UNIVERSAL DIVIDING HEADS

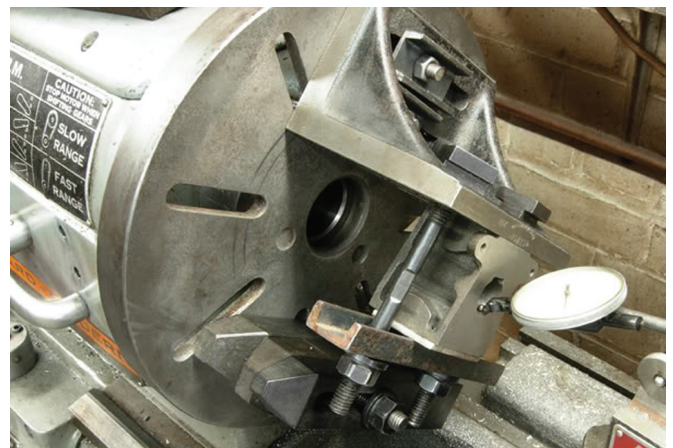
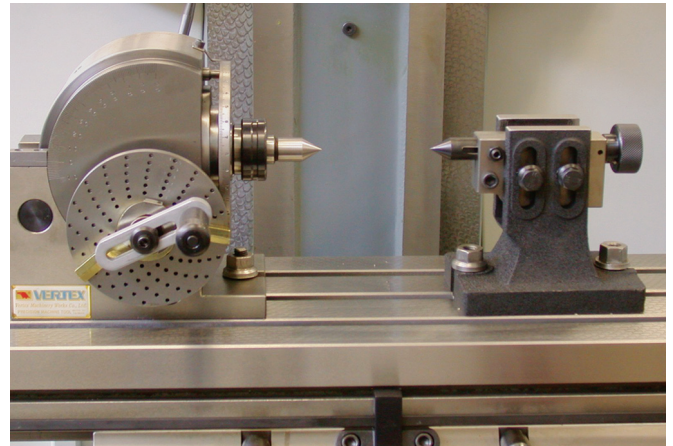


CODE	CENTRE HEIGHT (mm)	CHUCK (mm)	HEIGHT (mm)	WIDTH (mm)	MT
BS-0	100	125	173	140	2
BS-1	128	150	220	156	3

UNIVERSAL DIVIDING HEAD



CODE	CENTRE HEIGHT (mm)	CHUCK (mm)	HEIGHT (mm)	WIDTH (mm)	MT
BS2	132.7	200	236	272	4



TS1 AND 2 TAILSTOCK



CODE	HEIGHT(mm)	WIDTH(mm)
TS-1	107.5	92
TS-2	139	124

RIGHT ANGLE ATTACHMENTS



CODE	TAPER	ARBOR(mm)
R8	R8	27
ISO40	ISO40	27

POWER FEED UNITS



CODE	AXIS	R.P.M	TORQUE(Nm)
AX	X	0-160	88
BY	Y	0-160	88
DZ	Z	0-160	88
AL-500D	MILL DRILL	0-160	63

TR-1 POWER FEED TRANSFORMER



INPUT
220V
380V
415V AC

OUTPUT
110V AC 2AMP

QUICK CHANGE TOOL POSTS



SET CONTAINS MAIN BLOCK, 3 STANDARD TOOL HOLDERS, 1 V TOOL HOLDER, 1 MORSE TAPER HOLDER.

MODEL	CENTRE HEIGHT	MAX TOOLHOLDER (mm)
QCT-3002-6	4"-5"	20
QCT-5502-6	7"-10"	30

BORING HEADS



MODEL	DIA (mm)	OAL (mm)	BORING BAR HOLE SIZE(mm)	OFFSET
BC-2	50	62	12	12
BC-3	75	80	18	25

BORING HEAD ARBORS



CODE	TAPER
YCT	R8
YCT	3MT
YCT	ISO 40
YCT	BT40

UNIVERSAL BORING & FACING HEAD



MODEL	HEAD DIA	BORING BAR	SLIDE TRAVEL	FACING DIA	BORING DIA
VHU36	78mm	16mm	36mm	220mm	160mm

RAPID RETURN MANUAL - 3mm/REV

UNIVERSAL BORING & FACING HEAD ARBORS



CODE	TAPER
YCT	R8
YCT	ISO30
YCT	40ISO
YCT	BT40

REVERSIBLE TAPPING ATTACHMENT



ATTACHMENT	FOR TAPS	COMPENSATION(mm)	COLLETS
VTA-JTA6	M2-M7	3.5	FC-10/FC-11
VTA12-JTA6	M3-M12	4.5	FC-20/FC-21

HIGH SPEED NC REVOLVING CENTRE



CODE	TAPER	BODY DIA (mm)	ACCURACY	MAX RPM
NCK-MT.4A	4	76	0.003	5000
NCK-MT.5A	5	98	0.003	3500

INTERCHANGEABLE POINTS REVOLVING CENTRE



CODE	TAPER	BODY DIA (mm)	MAX RPM
CH2	MT2	38	4000
CH3	MT3	40	3000
CH4	MT4	48	2000

3 JAW SELF-CENTERING LATHE CHUCKS

BACK PLATE MOUNT



1 SET INSIDE
1 SET OUTSIDE JAWS

DIA (mm)	GRIPPING RANGE (mm)	BORE (mm)	MAX RPM	RECESS (mm)
160	160	40	2000	130
200	200	70	2000	165
250	250	80	1800	206
325	325	100	1800	260
400	400	130	1500	340

4 JAW INDEPENDENT LATHE CHUCKS

BACK PLATE MOUNT



DIA (mm)	GRIPPING RANGE(mm)	BORE (mm)	RECESS (mm)
100	100	25	72
160	160	45	65
200	200	56	75
250	250	65	110
325	325	95	140
400	400	125	160

D1 CAMLOCK ADAPTOR PLATE



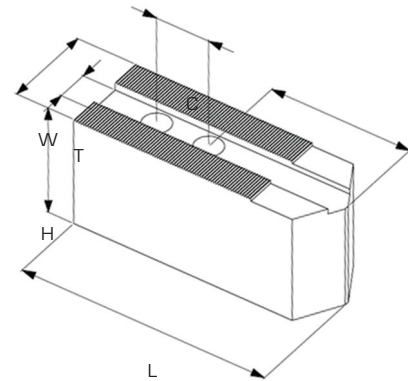
CHUCK SIZE (mm)	SPINDLE NOSE	PIN PCD (mm)	PIN DIA (mm)
160	D5	104.8	19
200	D5	104.8	19
250	D6	133.4	22.2
250	D6	133.4	22.2
400	D8	171.4	25.4
400	D11	235	30.2

KITAGAWA/TONFOU 3 JAW POWER CHUCKS



CHUCK SIZE(MM)	SPINDLE NOSE	BORE (MM)	RPM	GRIPPING FORCE(KGF)
169	A5	45	6000	5812
210	A6	52	5000	8769
254	A6	75	4200	11391
304	A8	91	3300	14686
381	A8/11	117.5	2500	18355

KITAGAWA/TONFOU SERRATED SOFT TOP JAWS



DIA (mm)	H (mm)	W (mm)	L (mm)	T (mm)	PCD (mm)	BOLT
169	32	30	70	12	20	M10
210	38	35	95	14	25	M12
254	42	40	110	16	30	M12
304	50	50	129	21	30	M16
381	70	60	165	22	33	M20

DEMAGNETIZER

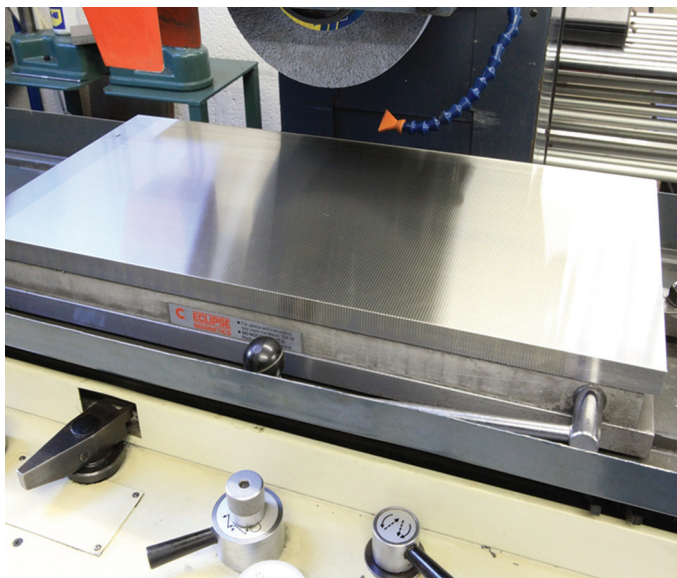


ORDER NO	VOLTAGE	DUTY CYCLE	LGTH	WIDTH	HEIGHT
GMD3	220V	100%	8"	6"	4"

PERMANENT MAGNETIC CHUCK



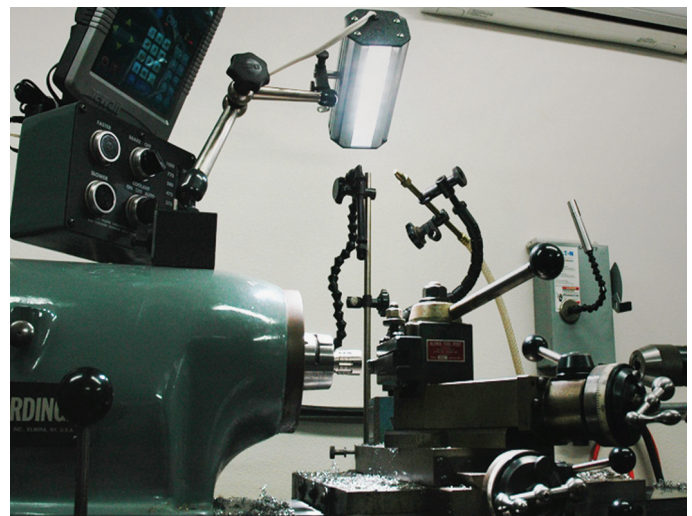
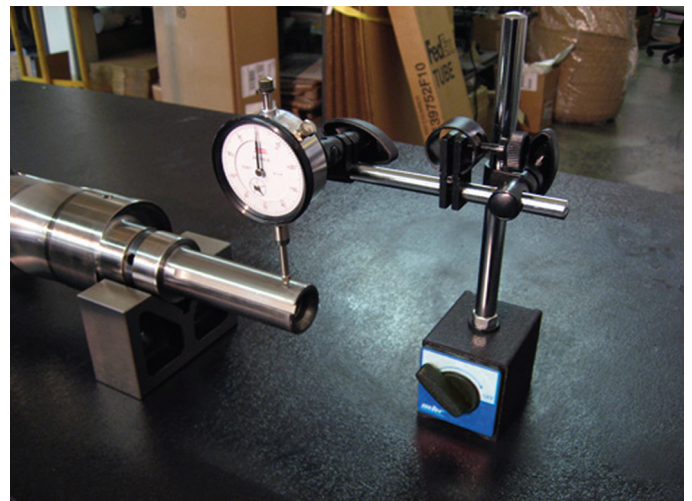
ORDER NO	SIZE	POLE PITCH	HEIGHT (MM)	WEIGHT (Kg)
GL-510	5" X 10"	8.5(2.5+6)	73	18.5
GL-818	8" X 18"	8.5(2.5+6)	80	36.5



MAGNETIC BASE WITH FINE ADJUSTMENT



MODEL	HOLDING POWER	ARM LENGTH	BASE DIMENSION
F03	80KG	310mm	60 X 50 X 55mm



POT MAGNETS



DIA(mm)	DEPTH(mm)
17.5	16
20.5	19
27	25
35	30

BUTTON MAGNETS



DIA(mm)	DEPTH(mm)
12.5	10
20	12.5
25	16
32.5	25

BAR MAGNETS

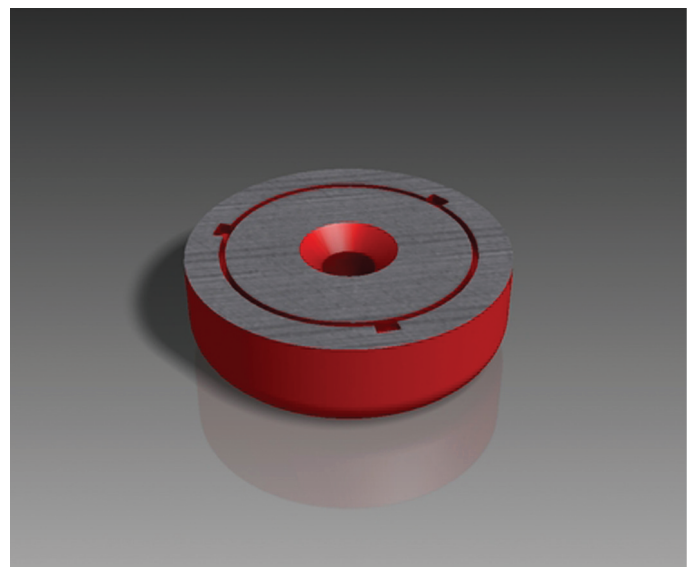
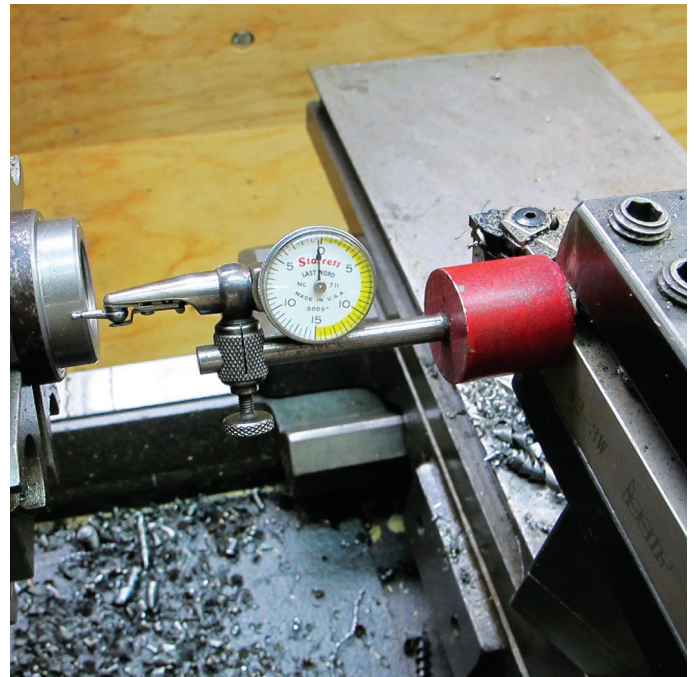


DIA(mm)	LENGTH(mm)
6	20
8	25
10	30

RECTANGULAR MAGNETS



LENGTH(mm)	WIDTH(mm)	HEIGHT(mm)
20	10	5
40	12.5	5
60	15	5
50.8	16	10
76.2	16	10



COOLANT PUMPS

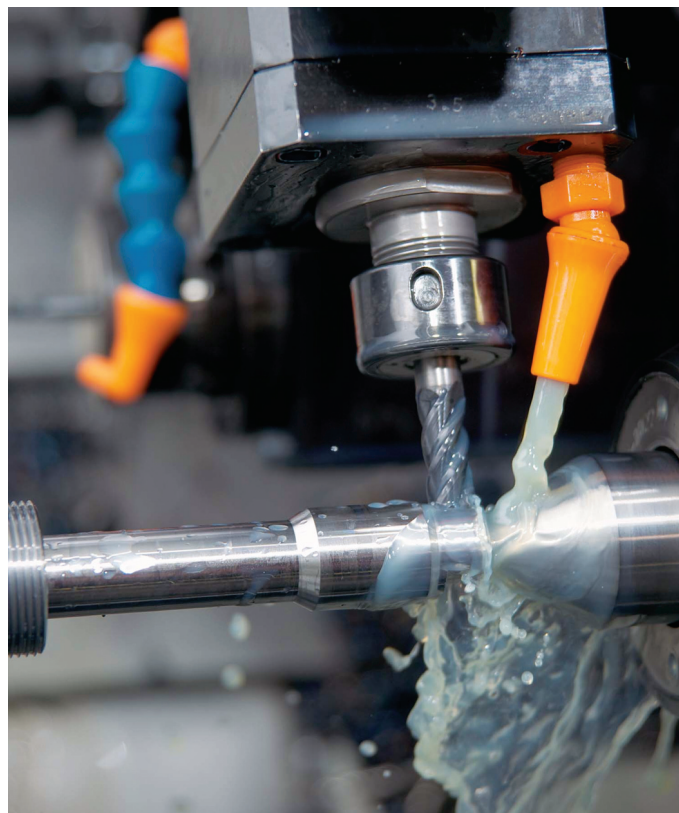


CODE	POWER	VOLT-AGE	STEM LENGTH (mm)	VOL. L/M	HEAD
YC-W180	0.09	220V	130	25-26L	2
YC-W180	0.09	220V	150	25-26L	2
YC-W180	0.09	220V	180	25-26L	2
YC-W180	0.09	380V	130	25-26L	2
YC-W180	0.09	380V	130	25-26L	2
YC-W180	0.09	380V	180	25-26L	2

PLASTIC COOLANT TANK



TANK SIZE(mm)	VOLUME OF TANK
350 X 230 X 160	12L



SYNTHETIC SOLUBLE OIL



5 LITRE

DUAL ACTION TAPMATIC FLUID 500ML



CODE	APPLICATION
NO1	ALL METALS EXCEPT ALUMINIUM
NO2	ESPECIALLY FOR ALUMINIUM
NO1 GOLD	FOR ALL METALS

ADJUSTABLE COOLANT HOSE



1/4" 30cm LENGTH HOSE KIT WITH NIPPLE AND ROUND NOZZLE

3/8" 30cm LENGTH HOSE KIT WITH NIPPLE AND ROUND NOZZLE

1/2" 30cm LENGTH HOSE KIT WITH NIPPLE AND ROUND NOZZLE

HAND LUBRICATION PUMP



MODEL	CAPACITY (CC)	EFFICIENT CAPACITY(CC)
LT-8	15	250/350

MAX DISCHARGED PRESSURE (KG/CM ²)	15
AMOUNT DISCHARGED (CC/ST)	8

AUTO/MANUAL PUMP CESA TYPE SMA-6



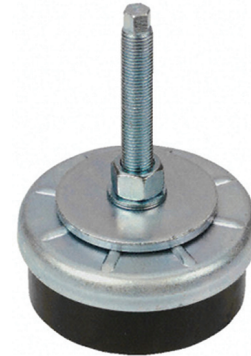
MODEL	INTERMITTENT TIME(MIN)	DISCHARGED AMOUNT(C.C/ST)
SMA-6	5,10,15,30,30	3
DISCHARGED PRESSURE KG/cm ²	2	3
CAPACITY(L)		2

EDGE FINDERS



MODEL	SHANK	LENGTH	BATTERY TYPE
SYIC 3311	20mm	160mm	UM5 X 2PCS

MAKO MACHINE MOUNTS



No 1

DIA: 80mm
HEIGHT: 41mm
ADJUSTMENT: 18mm
BOLT SIZE: M12 X 1.25
LOAD PER MOUNT: 50-500Kg
LOAD FOR PRESSES: 50-200Kg

No 2

DIA: 120mm
HEIGHT: 49mm
ADJUSTMENT: 18mm
BOLT SIZE: M16 X 1.5
LOAD PER MOUNT: 400-1000Kg
LOAD FOR PRESSES: 100-400Kg

No 3

DIA: 160mm
HEIGHT: 59mm
ADJUSTMENT: 25mm
BOLT SIZE: M20 X 1.5
LOAD PER MOUNT: 800-2500Kg
LOAD FOR PRESSES: 1500-5000Kg

No 4

DIA: 200mm
HEIGHT: 69mm
ADJUSTMENT: 25mm
BOLT SIZE: M20X1.5
LOAD PER MOUNT: 1500-5000Kg
LOAD FOR PRESSES: 500-2800Kg

RUBERT 130 COMPARATOR



CONSISTS OF 30 COMPARISON SPECIMENS, COVERING SIX COMMONLY-USED MACHINING METHODS:

6 TURNED, 6 END-MILLED, 6 HORIZONTALLY MILLED
6 SURFACE-GROUND, 3 LAPPED, 3 REAMED/DRILLED.

A LABEL GIVES THE RA VALUES OF EACH SPECIMEN IN BOTH METRIC AND IMPERIAL UNITS.

Z AXIAL PRESET GAUGE(Z-ZERO SETTER)



ORDER NO	HEIGHT	ACCURACY
ZM50A	50mm	0.005 μ
ZD1-100	100mm	0.01 μ

CONCENTRATED LED LIGHTING LAMP - FLEXIBLE

LOW VOLTAGE 12 VOLT OPERATION
WITH BUILT IN TRANSFORMER



CODE	VOLT	WATTS	LENGTH(mm)
LED-L601	220	4	400

ARC QUARTZ HALOGEN LAMP



CODE	VOLT	WATTS	LENGTH BOTTOM ARM	LENGTH TOP ARM
AL103A	220	75	400mm	410mm

52 PIECE CLAMPING KIT



24PCS STUDS , 6PCS T-NUTS, 4PCS COUPLING NUTS, 6PCS
FLANGE NUTS, 6PCS STEP CLAMPS, 6PCS STEP BLOCKS.

CODE	TABLE SLOT(mm)	STUD SIZE
CK10	12	M10
CK12A	14	M12
CK12B	15.7	M12
CK-16B	18	M16

YUANCUT EDM WIRE



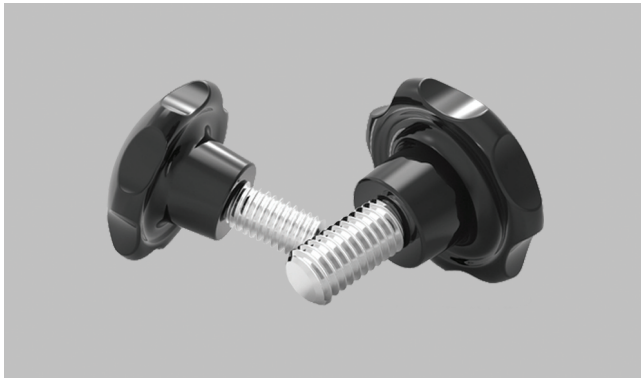
SPOOL DIA SIZE	WIRE TYPE	KG/ MM2	N/ MM2	ELONG- ATION	CUTTING SELECTION
5KG	0.25 Hard	>100	980	2%	Straight Surface Cutting
15KG	0.25 Hard	>100	980	2%	Straight Surface Cutting
5KG	0.25 Med	60-70	650	5%	Taper Cutting less 10%

WDS STANDARD PARTS

WDS HAND KNOB (STAR)



Wds No	Dia(mm)	Thread
142-201	32	M6
142-202	40	M8
142-203	50	M10
142-204	63	M12



WDS BALL KNOB



Wds No	Dia(mm)	Thread
143-201/211	20	M6
143-202/212	25	M6
143-203/213	25	M8
143-204/214	30	M8
143-206/216	35	M10
143-208/218	40	M12



WDS HANDWHEEL



Wds No	Dia(mm)
8157-201	100
8157-204	160
8157-205	200



WDS REVOLVING GRIP



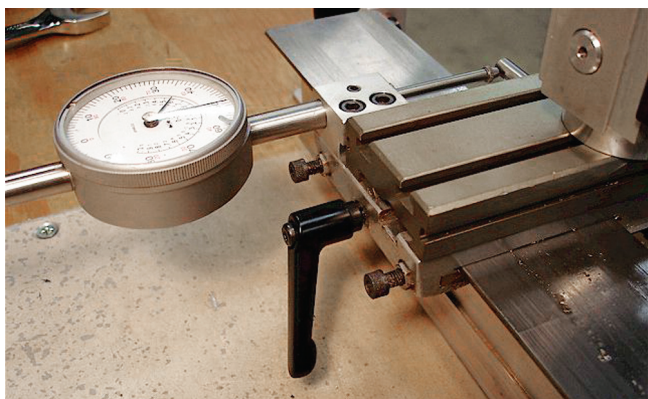
M6 X 50
M8 X 60
M10 X 75
M12 X 95



WDS CLAMP LEVER



M6
M8
M10
M12



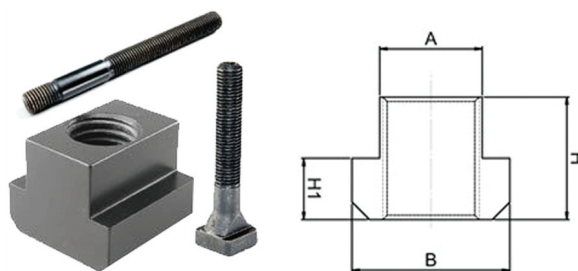
WDS COLLAR NUTS



Code	Thread	DIA(mm)	H(mm)
404-201	M6	14	9
404-202	M8	18	12
404-203	M10	22	15
404-204	M12	25	18
404-206	M16	31	24



WDS T-NUT

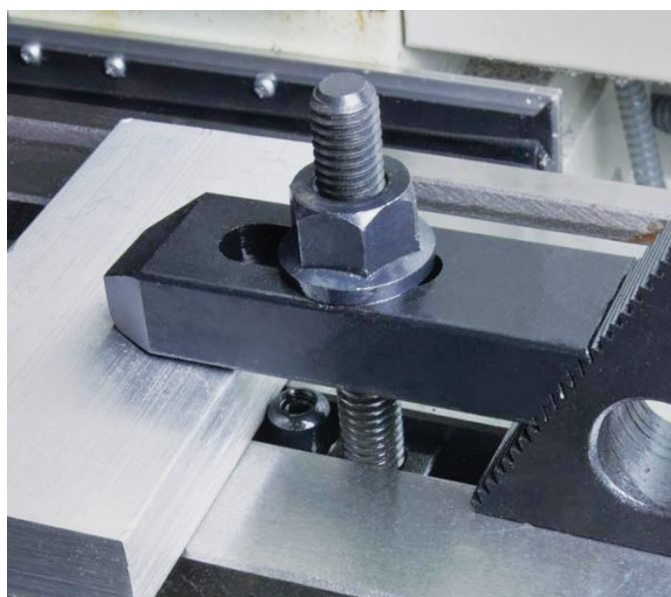


Code	Thread	A (mm)	B (mm)	H (mm)	H1 (mm)	L (mm)
664-201	M6	8	13	10	6	13
664-202	M8	10	16	12	6.5	16
664-203	M10	12	19	14	7	19
664-204	M12	14	22	16	8	22
664-206	M16	18	28	20	10	28

WDS SPRING PLUNGERS



Code	Diameter	Ball Dia (mm)	Length (mm)
606-2704	M4	2.5	9
606-2705	M5	3	12
606-2706	M6	3.5	14
606-2708	M8	5	16
606-2710	M8	6	19
606-2712	M12	8	22
606-2716	M16	10	24



MAXIMART DIELECTRIC FILTERS



CODE	SIZE(mm)
SH01	450 x 150 x 70
SH09	355 x 150 x 45

MITUTOYO OUTSIDE MICROMETER

SERIES 103



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
103-137	0-25	0.01	±2
103-138	25-50	0.01	±2
103-139-10	50-75	0.01	±2
103-140-10	75-100	0.01	±3
103-141-10	100-125	0.01	±3
103-142-10	125-150	0.01	±3
103-143	150-175	0.01	±4
103-144-10	175-200	0.01	±4
103-145-10	200-225	0.01	±4
103-146	225-250	0.01	±5
103-147	250-275	0.01	±5
103-148	275-300	0.01	±5

MITUTOYO SETS OF OUTSIDE MICROMETERS

SERIES 103



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
103-913-31	0-150	±3μ	0.01
103-914-31	0-300	±5μ	0.01
103-915	150-300	±5μ	0.01

MITUTOYO INTERCHANGEABLE ANVIL OUTSIDE MICS

SERIES 104



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
104-135	0-150	0.01	±4
104-136	150-300	0.01	±4

MITUTOYO BLADE MICROMETERS

SERIES 122



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
122-101	0-25	0.01	±3
122-102	25-50	0.01	±3

MITUTOYO BLADE MICROMETERS

SERIES 123 & 169



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
123-101	0-25	0.01	±4
123-102	25-50	0.01	±4

MITUTOYO TUBE MICROMETERS

SERIES 115



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
115-101	0-15	0.01	±3
115-115	0-25	0.01	±3
115-215	0-25	0.01	±3

MITUTOYO SCREW THREAD MICROMETERS

SERIES 126



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
126-125	0-25 0.	01	±4
126-126	25-50	0.01	±4
126-127	50-75	0.01	±4
126-128	75-100	0.01	±5

MEASURING TIPS

STOCK CODE	PITCH RANGE (mm)	TPI RANGE UN60 (Inch)
126-800	0.4-7	64-3.5
126-801	0.4-0.5	64-48
126-802	0.6-0.9	44-28
126-803	1-1.752	4-14
126-804	2--3	13-9
126-806	5.5-7.0	4.5-3

MITUTOYO POINT MICROMETERS

SERIES 112



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
112-153	0.25	0.01	±3mm

MITUTOYO SHEET METAL MICROMETERS

SERIES 118



STOCK CODE	SIZE(mm)	THROAT(mm)	READING (mm)
118-102	0.25	150	0.01

MITUTOYO DIGITAL OUTSIDE MICROMETERS

SERIES 193



STOCK CODE	SIZE(mm)	GRADUATION	ACCURACY (mm)
193-111	0-25	0.001	±2
193-101	0-25	0.01	±2
193-102	25-50	0.01	±2

MITUTOYO DIGITAL OUTSIDE MICROMETERS

SERIES 293



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
293-230	0-25	0.001	±1
293-231	25-50	0.001	±1

MITUTOYO ELECTRONIC DIGITAL OUTSIDE MICROMETER

INTERCHANGEABLE ANVIL - SERIES 340



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
340-511	0-150	0.001	±4

HOLTEST - THREE POINT INTERNAL MICROMETER

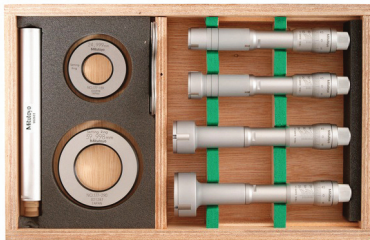
SERIES 368



STOCK CODE	RANGE (mm)	GRADUATION	ACCURACY
368-161	6-8	0.001	±2
368-162	8-10	0.001	±2
368-163	10-12	0.001	±2
368-164	12-16	0.005	±2
368-165	16-20	0.005	±2
368-166	20-25	0.005	±2
368-167	25-30	0.005	±3
368-168	30-40	0.005	±3
368-169	40-50	0.005	±3
368-170	50-63	0.005	±3
368-171	62-75	0.005	±3
368-172	75-88	0.005	±3
368-173	87-100	0.005	±3
368-174	100-125	0.005	±3
368-175	125-150	0.005	±3

HOLTEST - COMPLETE UNIT SETS

SERIES 368



STOCK CODE	RANGE (mm)	INDIVIDUAL RANGE(mm)	SETTING RINGS INCLUDED
368-906	2-3	2-2.5, 2.5-3	∅2.5
368-907	3-6	3-4, 4-5, 5-6	∅4, 5
368-901	16-12	6-8, 8-10, 10-12	∅8, 10
368-912	12-20	12-16, 16-20, 20-25, 25-30, 30-40, 40-50	∅16
368-913	20-50	20-25, 25-30, 30-40, 40-50	∅25, 40
368-914	50-100	50-63, 62-75, 75-88, 87-100	∅62, 87
368-915	100-200	100-125, 125-150, 150-175, 175-200	∅125, 175

MITUTOYO SMALL BORE GAUGES

SERIES 154



STOCK CODE	SIZE(mm)	DESCRIPTION
154-902	3--13	SET OF 4. USED WITH MICROMETER

MITUTOYO TUBULAR INSIDE MICROMETER

SERIES 137



STOCK CODE	SIZE (mm)	GRADU- ATION	ACCURACY (mm)	MIN LGTH
137-011	50-63	0.01	13	50

STOCK CODE	SIZE(mm)	EXTENSION RODS
137-201	50-150	13,25,50
137-202	50-300	13,25,2X50,100

MITUTOYO INSIDE MICROMETER

SERIES 141



STOCK CODE	SIZE (mm)	GRADUATION	TRAVEL (mm)	NO OF RODS
141-101	25-50	0.01	7	2
141-205	50-200	0.01	13	6
141-206	50-300	0.01	13	10

MITUTOYO INSIDE MICROMETER

SERIES 145



STOCK CODE	SIZE	GRADUATION	ACCURACY
145-185	5-30mm	0.01	±5mm

MITUTOYO DEPTH MICROMETER

SERIES 129



STOCK CODE	SIZE (mm)	GRADUATION	BASE (mm)
129-154	0-25	0.01	63
129-109	0-50	0.01	63
129-111	0-100	0.01	63
129-115	0-100	0.01	101
129-112	0-150	0.01	63
129-116	0-150	0.01	101
129-153	0-300	0.01	101

MITUTOYO TELESCOPIC GAUGES

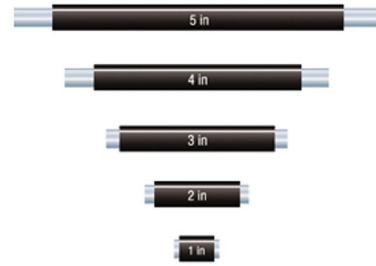
SERIES 155



STOCK CODE	SIZE(mm)	OAL(mm)
155-127	8-12.7	110
155-128	12.7-19	110
155-129	19-32	110
155-130	32-54	150
155-131	54-90	150
155-132	90-150	150
155-905	8-150	SET OF 6

MICROMETER STANDARD

SERIES 167



STOCK CODE	LENGTH(mm)	DIAMETER(mm)
167-101	25	6.35
167-102	50	6.35
167-103	75	6.35
167-104	100	7.9
167-105	125	7.9
167-106	150	7.9
167-107	175	7.9
167-108	200	9.4
167-109	225	9.4
167-110	250	9.4
167-111	275	9.4
167-112	300	9.4
167-113	325	9.4
167-114	350	9.4
167-115	375	9.4
167-116	400	9.4
167-117	425	9.4
167-118	450	9.4
167-119	475	9.4
167-120	500	11.9

MITUTOYO BORE GAUGES

SERIES 526



STOCK CODE	SIZE(mm)	GRADUATION	PROBE DEPTH (mm)
526-126	7-10	0.01	56
526-127	10-18	0.01	62
526-124	7-10	0.001	56
526-125	10-18	0.001	62

MITUTOYO BORE GAUGES

SERIES 511



STOCK CODE	SIZE(mm)	GRADUATION	PROBE DEPTH (mm)
511-711	18-35	0.01	100
511-712	35-60	0.01	100
511-713	50-100	0.01	150
511-714	100-160	0.01	150
511-715	160-250	0.01	150
511-721	18-35	0.001	100
511-722	35-60	0.001	100
511-723	50-100	0.001	150
511-170	50-150	0.001	150
511-901	18-150	0.01	SET OF 4
511-902	18-150	0.001	SET OF 4

DIAL CALIPER GAUGE

SERIES 209



STOCK CODE	SIZE (mm)	GRADUATION	LENGTH (mm)
209-106	10-35	0.025	80
209-107	30-55	0.025	80
209-108	50-75	0.025	80

DEPTH MICROMETER

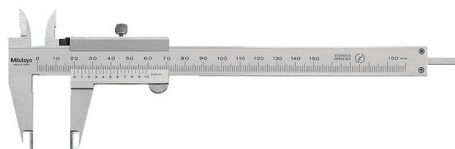
SERIES 329



STOCK CODE	RANGE (mm)	GRADUATION	BASE (mm)
329-250	0-150	0.001	101.6x16
329-251	0-300	0.001	101.6x16

MITUTOYO SCREW LOCK VERNIER CALIPER

SERIES 530



STOCK CODE	SIZE (mm)	VERNIER READING	ACCURACY (mm)
530-101	0-150	0.05	±0.05
530-108	0-200	0.05	±0.05
530-109	0-300	0.05	±0.08

MITUTOYO VERNIER CALIPERS WITH THUMB LOCK

SERIES 531



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
531-101	0-150	0.05	±0.05
531-102	0-200	0.05	±0.05
531-103	0-300	0.05	±0.08

MITUTOYO VERNIER CALIPER - FINE ADJUSTMENT

SERIES 532



STOCK CODE	SIZE (mm)	GRADUATION	ACCURACY (mm)
532-101	130	0.02	±0.03
532-102	180	0.02	±0.03
532-103	280	0.02	±0.04

MITUTOYO VERNIER CALIPER

SERIES 160



STOCK CODE	RANGE (mm)	GRADUATION	ACCURACY (mm)
160-128	20-450	0.02	±0.05
160-101	20-600	0.02	±0.05
160-104	20-1000	0.02	±0.07

MITUTOYO DIAL CALIPERS

SERIES 505



STOCK CODE	SIZE (mm)	GRADUATION	RANGE PER REV	ACCURACY (mm)
505-671	0-150	0.02	2	±0.03
505-672	0-200	0.02	2	±0.03
505-673	0-300	0.02	2	±0.04

MITUTOYO ELECTRONIC CALIPERS

SERIES 500



STOCK CODE	MEASURING RANGE	RESOLUTION	ACCURACY (mm)
500-171-20	0-150/6"	0.01	±0.02
500-172-20	0-200/8"	0.01	±0.02
500-173	0-300/12"	0.01	±0.03
500-501-10	0-600mm	0.01	±0.05

MITUTOYO ELECTRONIC DEPTH GAUGES

SERIES 571



STOCK CODE	MEASURING RANGE	VERNIERS READOUT	ACCURACY (mm)
571-201-20	0-150	0.01	±0.02
571-202-20	0-200	0.01	±0.02
571-211-20	0-150/6"	0.01/0.0005	±0.02

MITUTOYO DIAL DEPTH GAUGE

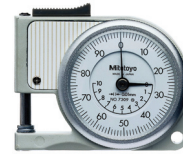
SERIES 7211



STOCK CODE	MEASURING RANGE	VERNIERS READOUT	BASE(W X T) FLATNESS
7211	0-200	0.01	63.5 X 16, 5 μ
7212	0-200	0.01	101.6 X 16, 5 μ

MITUTOYO POCKET THICKNESS GAUGES

SERIES 7309



STOCK CODE	MEASURING RANGE	GRADUATION	ACCURACY
7309	0-10mm	0.01	±20 μ

MITUTOYO DIAL THICKNESS GAUGES

SERIES 7301



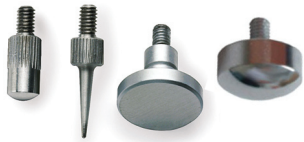
STOCK CODE	RANGE (mm)	GRADUATION	THROAT (mm)	ACCURACY (μ)
547-400	0-12	0.001	30mm	3
7301	0-10	0.01	30	15
7360	0-10	0.01	20	15
7321	0-10	0.01	120	15
7323	0-20	0.01	120	22

MITUTOYO DIAL INDICATORS



STOCK CODE	RANGE (mm)	GRADUATION	BEZEL	ACCURACY (mm)	DIAL READING (mm)
1044S	5	0.01	40	±13 μ	0-100
1045S	5	0.01	40	±13 μ	0-50-0
2046S	10	0.01	55	±13 μ	0-100
2050S	20	0.01	55	±20 μ	0-100
2052S	30	0.01	55	±25 μ	0-100
2109S-10	1	0.001	55	±5 μ	0-100-0
2119S-10	5	0.001	55	±10 μ	0-100-0
3052S-19	30	0.01	75	±25	0-100
3058S-19	50	0.01	75	±30	0-100

CONTACT POINTS



STOCK CODE	LENGTH(mm)	DIA(mm)
901312	7.3	
101121	15	
101117	10	10
101119	5	10

EXTENSION RODS



STOCK CODE	LENGTH(mm)
303-611	10
303-612	20
303-613	30
303-614	100

MITUTOYO VERTICAL DIAL TEST INDICATORS

SERIES 513



STOCK CODE	RANGE (mm)	GRADUATION	BEZEL	STYLUS	ACCURACY (μ)
513-405E	0-0.2	0.002	38	14.7	3
513-405T	0-0.02	0.002	38	14.7	3
513-404T	0-0.8	0.01	38	20.9	5
513-404E	0-0.8	0.01	38	20.9	5

DTI CONTACT POINT - 2MM CARBIDE BALL



STOCK CODE	LENGTH(mm)
103010	14.7
103006	20.9
103613	44.5

MITUTOYO CAN SEAM MICROMETER

SERIES 147



STOCK CODE	RANGE (mm)	GRADUATION	MEASURING APPLICATION
147-103	0-13	0.01	STEEL CANS
147-105	0-13	0.01	ALUMINIUM CANS
147-202	0-13	0.01	AEROSOL SPRAY CANS

MITUTOYO HEIGHT GAUGES

SERIES 514



STOCK CODE	RANGE (mm)	VERNIER READING	ACCURACY
514-102	300	0.02	0.04
514-104	450	0.02	0.05
514-106	600	0.02	0.05

MITUTOYO HEIGHT GAUGES

SERIES 570



STOCK CODE	RANGE (mm)	RES	ACCURACY (mm)	REPEAT ABILITY
570-302	300	0.01	0.03	0.01
570-304	600	0.01	0.05	0.01

MITUTOYO ELECTRONIC HEIGHT GAUGES

DOUBLE BEAM - SERIES 192



STOCK CODE	RANGE (mm)	RES	ACCURACY (mm)	REPEAT ABILITY
192-613-10	300	0.01	0.03	0.01
192-614-10	600	0.01	0.05	0.01
192-615-10	1000	0.01	0.07	0.01
192-632-10	600/24"	0.01/0.0005	0.05	0.01

MITUTOYO ELECTRONIC INDICATORS

SERIES 543



STOCK CODE	RANGE (mm)	RES	STEM (mm)	ACCURACY (mm)
543-683	0-12	0.01 / 0.0005	8	0.0008
543-400	0-12	0.01	8	0.02
543-390	0.1	0.001	8	0.003
543-681	0-12	0.01	8	0.02

MITUTOYO ELECTRONIC INDICATORS

SERIES 575



STOCK CODE	RANGE (mm)	RES	STEM (mm)	ACCURACY (mm)
575-121	0-25	0.01	8	0.02

MITUTOYO ELECTRONIC MICROMETER HEADS

SERIES 164



STOCK CODE	RANGE (mm)	READING (mm)	ACCURACY (mm)
164-164	0-50	0.001	0.003

MITUTOYO ELECTRONIC MINI PROCESSOR

SERIES 164



STOCK CODE	MODEL TYPE	OUTPUT	PRINTER
264-504-5D	DP-HIS	RS232C	THERMAL DOT MATRIX

MITUTOYO MAGNETIC BASES

SERIES 164



STOCK CODE	BASE (mm)	COLUMN LENGTH(mm)	FINE ADJUSTMENT
7010S	50-60-55	176-165	WITHOUT
7011S	50-60-55	176-150	WITH

MICROMETER STANDS



CODE	RANGE
156-101	UP TO 100mm ADJUSTABLE ANGLE

DIAL GAUGE STAND



CODE	STEM HOLE
7001	8mm

UNIVERSAL BEVEL PROTRACTOR

SERIES 187



CODE	STEM HOLE
187-901	150,300mm

UNIVERSAL COMBINATION SETS

SERIES 187



STOCK CODE	RULE LENGTH (mm)	RULE GRADUATION
180-910U	300	1.0,0.5

RADIUS OPTICAL GAUGES

SERIES 186



STOCK CODE	RANGE	LEAVES
186-902	0.5-13mm	26 PAIRS BY 0.5 -13 X 0.5mm

MITUTOYO OPTICAL FLATS

SERIES 157



STOCK CODE	TO CHECK	MICRO-METER	FLATNESS	PARALLELISM (mm)
157-903	0-25	1	2	30



MITUTOYO GAUGE BLOCKS

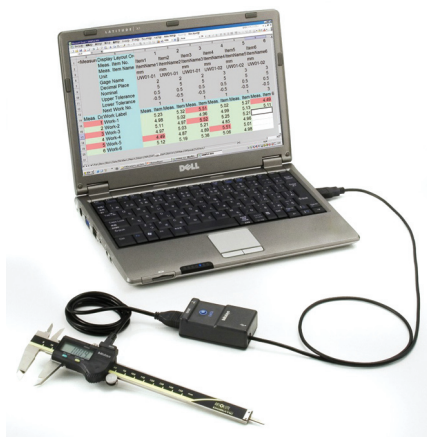
SERIES 516



STOCK CODE	NO OF PIECES	RANGE (mm)	GRADE
516-938-10	112	1.0005-100	0
516-939-10	112	1.0005-100	1
516-942-10	103	1.0005-100	0
516-943-10	103	1.0005-100	1
516-944-10	103	1.0005-100	2
516-946-10	87	1.001-100	0
516-947-10	87	1.001-100	1
516-948-10	87	1.001-100	2
516-950-10	76	1.005-100	0
516-952-10	76	1.005-100	2
516-956-10	56	1.001-100	2
516-964-10	47	1.005-100	2
516-967-10	32	1.005-60	1
516-968-10	32	1.005-60	2

INPUT TOOLS

SERIES 264



USB KEYBOARD SIGNAL KEYBOARD CONVERSION



STOCK CODE
264-012-10

RS-232C CONVERSION MODEL



STOCK CODE
264-007

PS/2 KEYBOARD SIGNAL CONVERSION MODEL



STOCK CODE
264-005

OPTIONAL ACCESSORIES

FOOTSWITCH

STOCK CODE 937-179T

GAUGE SELECTOR

STOCK CODE 939-039

PRECISION LEVEL

SERIES 960



CODE	SENSITIVITY	DIMENSION(mm)
960-603	0.02	200 X 44 X 38.2

DIGITAL LEVEL AND PROTRACTOR

SERIES 302



CODE	RANGE	RESOLUTION	ACCURACY
2173-360	0-360 (90DEG X 4)	0.1DEG (=1.75mm/m)	0.2DEG

PJ-A3000 PROFILE PROJECTORS

SERIES 302



CODE	X & Y STAGE TRAVEL	X & Y EFFECTIVE AREA
302-702	150 X 50mm	185 X 84mm

TOOLMAKERS MICROSCOPE TM500

SERIES 302



CODE	X & Y STAGE TRAVEL (mm)	X & Y EFFECTIVE AREA (mm)	WORK PIECE HEIGHT (mm)	TOTAL MAGNIFICATION
176-811	50 X 50	96 X 96	115	30X
176-812	100 X 50	154 X 96	107	30X



GUANGLU DIAL INDCTATOR

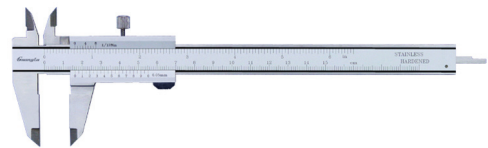
SERIES 321



CODE	RANGE (mm)	GRADUATION (mm)	READING (mm)	BEZEL (mm)
321-130	0-5	0.01	0-100	58
321-131	0-10	0.01	0-100	58
321-134	0-30	0.01	0-100	60
321-141	0-50	0.01	0-100	80

GUANGLU VERNIER CALIPER

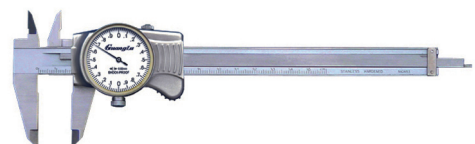
SERIES 141



CODE	RANGE (mm)	READING (mm)	JAW LENGTH (mm)
141-101	150	0.02	40
141-103	150	0.05	40
141-105	200	0.05	50
141-107	300	0.05	60

GUANGLU DIAL CALIPER

SERIES 171



CODE	RANGE (mm)	READING (mm)	JAW LENGTH (mm)
171-132	0-150	0.02	40
171-134	0-200	0.02	50
171-136	0-300	0.02	60

GUANGLU DIGITAL CALIPER

SERIES 111



CODE	RANGE (mm)	READING (mm)	JAW LENGTH (mm)
111-101D	0-150	0.01	40
111-102D	0-200	0.01	50
111-103D	0-300	0.01	60
111-304-1	0-500	0.01	100
111-305	0-600	0.01	150

GUANGLU DIGITAL HEIGHT GAUGE

SERIES 131



CODE	RANGE (mm)	RESOLUTION (mm)
131-103	0-300	0.01
131-105	0-500	0.01
131-106	0-600	0.01

GUANGLU DIGITAL SCALE UNIT

SERIES 812



CODE	RANGE (mm)	RESOLUTION (mm)
812-201	150	0.01

STAINLESS STEEL RULE



CODE	RANGE (mm)	WIDTH (mm)	THICKNESS (mm)
98150	150	13	0.5
98300	300	24	1.0
98600	600	29	1.5
98602	1000	32	1.5
98601	2000	40	3.0

ENGINEERS SQUARE



CODE	SIZE (mm)	GRADE
MW4004	100	B
MW4006	150	B
MW4009	225	B

PRECISION SQUARE



CODE	SIZE (mm)	SQUARENESS (μ)
4791-100	100X70	7
4791-150	150X100	7

STRAIGHT EDGE



CODE	LENGTH(mm)	WIDTH(mm)	GRADE
0464	500	50X10	0
1689102	1000	40X8	2
1684103	2000	60X12	0
1689104	2000	60X12	2
0466107	3000	80X15	2

GRANITE SURFACE PLATE

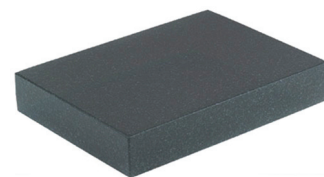


PLATE SIZE(mm)	GRADE
250 x 250 x 50	00, 0, 1, 2
400 x 300 x 80	00, 0, 1, 2
400 X 400 X 80	00, 0, 1, 2
630 X 400 X 80	00, 0, 1, 2
1000 X 630 X 150	00, 0, 1, 2
1500 X 1000 X 200	00, 0, 1, 2
2000 X 1000 X 250	00, 0, 1, 2
3000 X 1500 X 300	00, 0, 1, 2

SCREW PLUG GAUGES

GO AND NO GO DOUBLE ENDED



METRIC COARSE 6H

CODE	SIZE
6820	M2 x 0.4
6880	M2.5 x 0.45
7000	M3 x 0.5
7070	M3.5 x 0.6
7100	M4 x 0.7
7200	M5 x 0.8
7300	M6 x 1.0
7370	M7 x 1.0
7400	M8 x 1.25
7500	M10 x 1.5
7600	M12 x 1.75
7700	M14 x 2.0
7800	M16 x 2.0
7850	M18 x 2.5
7900	M20 x 2.5
7990	M22 x 2.5
8060	M24 x 3.0
8120	M27 x 3.0
8210	M30 x 3.5
8300	M33 x 3.5
8390	M36 x 4.0

METRIC FINE 6H

CODE	SIZE
8600	M6 x 0.75
8820	M8 x 0.75
8910	M8 x 1.0
8990	M10 x 1.0
9080	M10 x 1.25
9150	M12 x 1.0
9230	M12 x 1.25
9320	M12 x 1.5
9400	M14 x 1.0
9490	M14 x 1.25
9580	M14 x 1.5
9640	M16 x 1.5
9730	M20 x 1.5
9820	M22 x 1.5
9910	M25 x 1.5

UNC PLUG GAUGE 2B

CODE	SIZE
9990	N04-40
0080	N05-40
0170	N06-32
0260	N08-32
0340	N010-24
0430	N012-24
0520	1/4-20

0610	5/16-18
0700	3/8-16
0790	7/16-14
0880	1/2-13
0970	9/16-12
1080	5/8-11
1170	3/4-10
1260	7/8-9
1330	1"-8

UNF PLUG GAUGE 2B

CODE	SIZE
1420	N04-48
1510	N05-44
1600	N06-40
1690	N08-36
1780	N010-32
1870	N012-28
1960	1/4-28
2050	5/16-24
2140	3/8-24
2230	7/16-20
2320	1/2-20
2370	9/16-18
2410	5/8-18
2490	3/4-16
2580	7/8-14
2680	1"-12

G BSP PLUG GAUGE

CODE	SIZE
2770	G1/8-28
2860	G1/4-19
2950	G3/8-19
3040	G1/2-14
3130	G5/8-14
3220	G3/4-14
3310	G7/8-14
3390	G1"-11

RC BSPT PLUG GAUGE
SYSTEM B

CODE	SIZE
3500	RC1/8-28
3530	RC1/4-19
3560	RC3/8-19
3590	RC1/2-14
3620	RC3/4-14
3650	RC1"-11

NPT PLUG GAUGE

CODE	SIZE
3680	1/8-27
3710	1/4-18
3740	3/8-18
3770	1/2-14
3800	3/4-14
3830	1"-11.5

SCREW RING GAUGES

GO AND NO GO



METRIC COARSE RING GAUGE 6G

CODE GO	CODE NO GO	SIZE
6840	6860	M2 X 0.4
6900	6920	M2.5 X 0.45
7050	7060	M3 X 0.5
7080	7090	M3.5 X 0.6
7150	7160	M4 X 0.7
7250	7260	M5 X 0.8
7350	7360	M6 X 1.0
7380	7390	M7 X 1.0
7450	7460	M8 X 1.25
7550	7560	M10 X 1.5
7650	7660	M12 X 1.75
7750	7780	M14 X 2.0
7820	7840	M16 X 2.0
7860	7880	M18 X 2.5
7930	7960	M20 X 2.5
8020	8040	M22 X 2.5
8080	8100	M24 X 3.0
8150	8180	M27 X 3.0
8240	8270	M30 X 3.5
8330	8360	M33 X 3.5
8420	8440	M36 X 4.0

METRIC FINE RING GAUGE 6G

CODE GO	CODE NO GO	SIZE
8630	8660	M6 X 0.75
8850	8880	M8 X 0.75
8940	8970	M8 X 1.0
9020	9050	M10 X 1.0
9090	9120	M10 X 1.25
9180	9200	M12 X 1.0
9260	9290	M12 X 1.25
9350	9380	M12 X 1.5
9430	9460	M14 X 1.0
9520	9550	M14 X 1.25
9610	9630	M14 X 1.5
9670	9700	M16 X 1.5
9760	9790	M20 X 1.5
9850	9880	M22 X 1.5
9940	9970	M24 X 1.5

UNC RING GAUGE 2A

CODE GO	CODE NO GO	SIZE
0020	0050	N04-40
0110	0140	N05-40
0200	0230	N06-32
0290	0310	N08-32
0370	0400	N010-24
0460	0490	N012-24
0550	0580	1/4-20
0640	0670	5/16-18
0730	0760	3/8-16
0820	0850	7/16-14
0910	0940	1/2-13
1000	1050	9/16-12
1110	1140	5/8-11
1200	1230	3/4-10
1290	1310	7/8-9
1360	1390	1"-8

UNF RING GAUGE 2A

CODE GO	CODE NO GO	SIZE
1450	1480	N04-48
1540	1570	N05-44
1630	1660	N06-40
1720	1750	N08-36
1810	1840	N010-32
1900	1930	N012-28
1990	2020	1/4-28
2080	2110	5/16-24
2170	2200	3/8-24
2260	2290	7/16-20
2350	2360	1/2-20
2380	2390	9/16-18
2440	2470	5/8-18
2520	2550	3/4-16
2610	2640	7/8-14
2710	2740	1"-12

G BSP RING GAUGE

CODE GO	CODE NO GO	SIZE
2800	2830	G1/8-28
2890	2920	G1/4-19
2980	3010	G3/8-19
3070	3100	G1/2-14
3160	3190	G5/8-14
3250	3280	G3/4-14
3330	3360	G7/8-14
3420	3450	G1"-11



RENISHAW TOUCH TRIGGER PROBE



TP20

Allows the use of a range of stylus configurations and extensions to access features on complex parts.

SF - Standard force

XY: 0.08N | Z: 0.75N | Stylus: 10mm

LF - Low force

XY: 0.055N | Z: 0.65N | Stylus: 10mm

MF - Medium force

XY: 0.1N | Z: 1.9N | Stylus: 25mm

EF - Extended force

XY: 0.1N | Z: 3.2N | Stylus: 50mm

6W - 6-way

XY: 0.14N | Z: 1.6N | Stylus: 10mm

EM1 STD - 50mm extension

XY: 0.08N | Z: 0.75N | Stylus: 10mm

EM2 STD - 75mm extension

XY: 0.08 N | Z: 0.75N | Stylus: 10mm

RENISHAW TOUCH TRIGGER PROBE

TP200/TP200B



3 Modules Available

SF (Standard Force)

LF (Low Force)

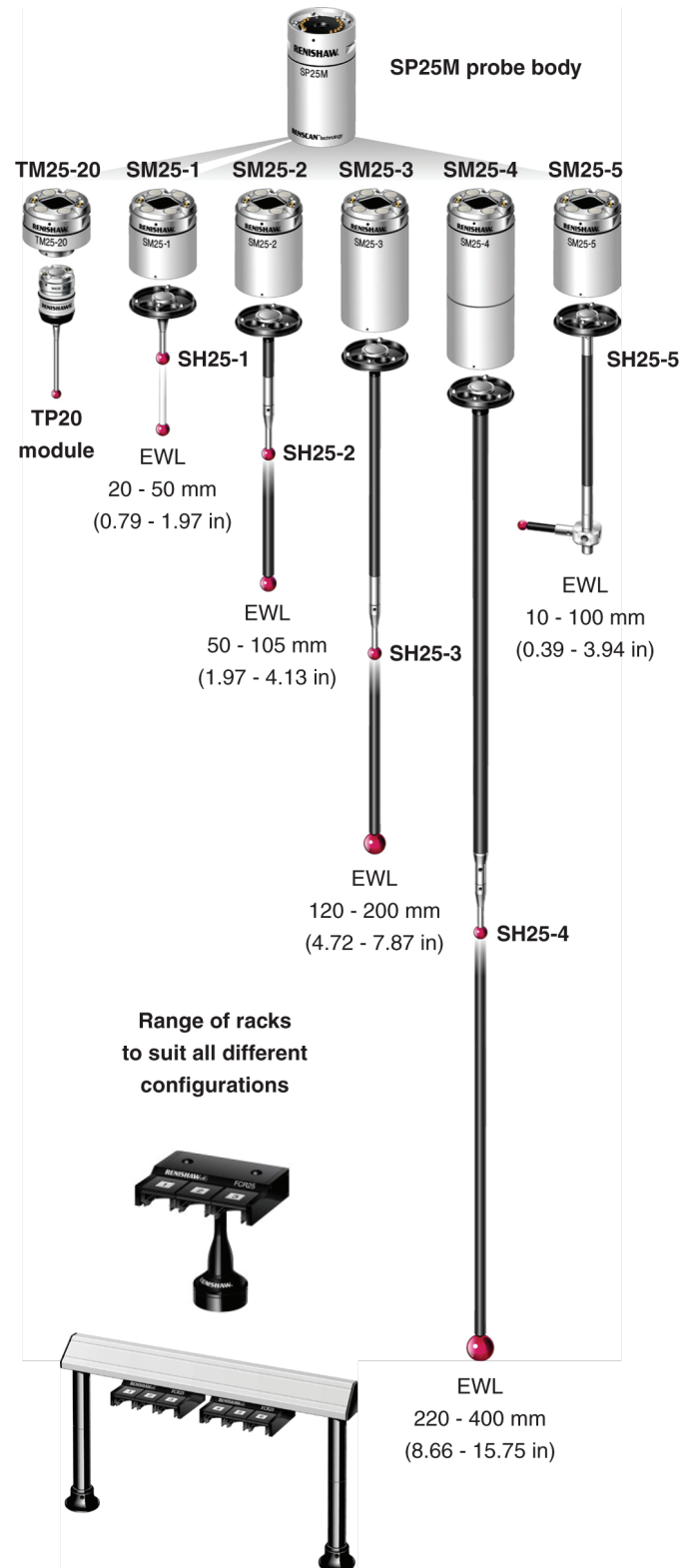
EO (Extended Overtravel)

The TP200 and TP200B are electronic probes using strain gauge technology, which gives higher accuracy than kinematic touch-trigger probes. They combine outstanding metrology performance with superior functionality to produce a highly versatile DCC CMM probing system, with excellent productivity.

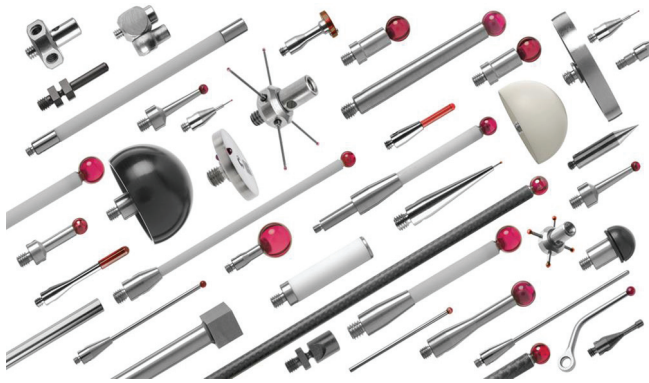
RENISHAW TOUCH TRIGGER PROBES

SP25M

At only 25mm in diameter, and with a range of scanning and touch-trigger modules, the SP25M is the world's most compact and versatile scanning probe system.



RENISHAW STYLI FOR TOUCH PROBES

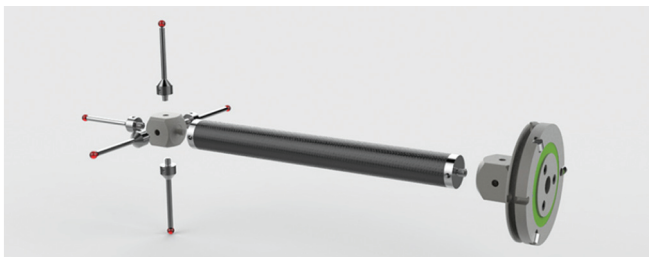


Renishaw manufacture an extensive range of precision styli and stylus accessories. They are available in M2, M3, M4 and M5 thread sizes with steel, tungsten carbide, graphite fibre and ceramic stems. Each is fitted with a precision industrial synthetic ball (ruby, zirconia or silicon nitride) available in diameters from 0.3mm (0.012in) to 10mm (0.4in). Special application styli including discs, cylinders, pointers, stars and large ceramic balls up to 30 mm (1.18 in) are available in M2 and M3 thread sizes.

STYLI FOR ZEISS PROBES



Renishaw has increased its range of styli to enable users of all Zeiss machines to benefit from the high precision specifications associated with our styli. The range is compatible with Zeiss analogue probe systems without probe changing, measuring heads with probe changers and dynamic probe heads.



RENISHAW MOTORISED INDEXING HEADS

PH10M+ & PH10MQ+



The PH10M+ and PH10MQ+ are motorised indexing heads that re-orientate the probe repeatedly to any one of 720 positions at 7.5° increments. Autojoint mount for repeatable probe positioning Torque capable of lifting a 300 mm (11.81 in) long extension bar.

RENISHAW CHANGE RACKS



Rack systems are used for automatic stylus and module changes for CMM applications, allowing fully automatic measuring routines.

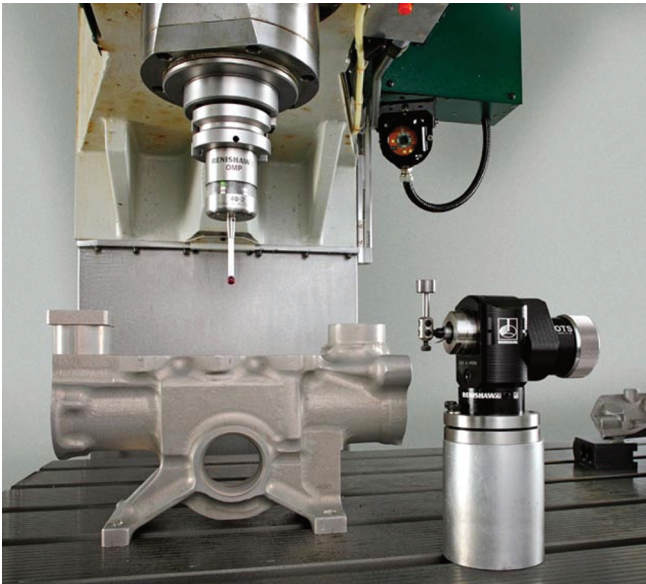
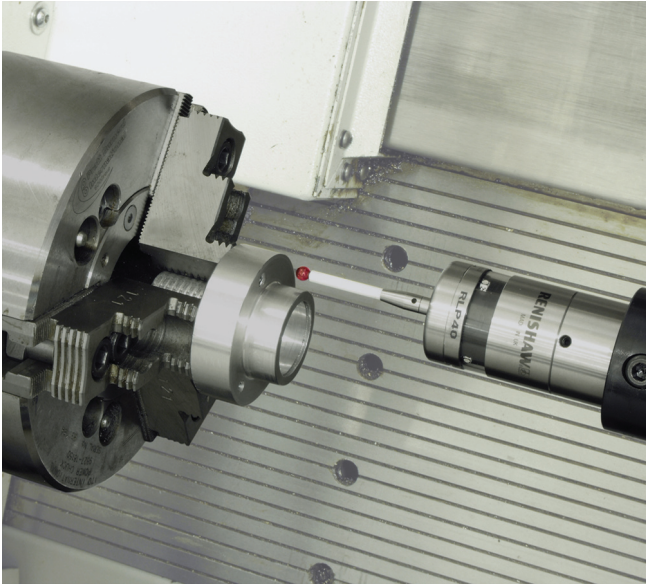
RENISHAW POSITION ENCODERS

Laser encoders | Optical encoders | Magnetic encoders

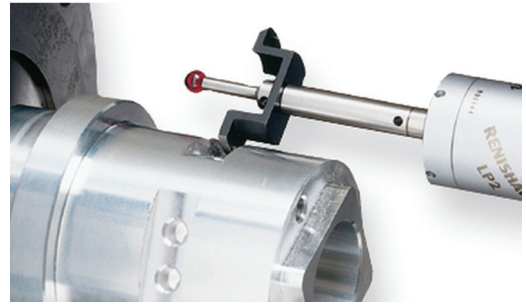


Renishaw has a large range of Optical and Magnetic encoder systems for rotary and linear measurements, as well as Laser Interferometric Encoders for high resolution linear measurements.

RENISHAW PROBES



RENISHAW LP2 PROBE



DIMENSIONS	Ø25mm X 40.8mm
MACHINE TYPE	LATHE & GRINDING
TRANSMISSION TYPE	OMP40M/ RMP40M OR HARD WIRED
PERFORMANCE	
ACCURACY	STANDARD
REPEATABILITY	1.0
3D PRE-TRAVEL VARIATION	N/A
MAX RECOMMENDED	
STYLI LENGTH	100mm
SWITCH ON METHOD	N/A
BATTERY TYPE	N/A

RENISHAW MP250 PROBE



DIMENSIONS	Ø25mm X 40.7mm
MACHINE TYPE	LATHE & GRINDING
TRANSMISSION TYPE	HARD WIRED
PERFORMANCE	
ACCURACY	HIGH
REPEATABILITY	0.25
3D PRE-TRAVEL VARIATION	1.0
MAXIMUM RECOMMENDED	
STYLI LENGTH	100mm
SWITCH ON METHOD	N/A
BATTERY TYPE	N/A

RENISHAW DIGITAL READOUT SYSTEMS

DRO



High end, accurate and robust DRO system that can be fitted to almost any 2 or 3 axis machine.

RENISHAW EQUATOR GAUGING SYSTEMS

300/500



Renishaw Equator systems are high accuracy high speed comparative gauges for inspection of medium to high volume manufactured parts.



Renishaw's Equator gauging systems are an innovative and highly repeatable gauging technology, based on the traditional comparison of production parts to a reference master part. Re-mastering is as swift as measuring a production part and immediately compensates for any change in the thermal conditions of a shop-floor environment.

RenAM METAL ADDITIVE MANUFACTURING

3D PRINTING - AM250/AM400/RenAM-500M



Additive manufacturing, also called 3D printing, creates a three-dimensional part from a digital file. Thin layers of material are used to create complex shapes which cannot be produced by 'traditional' techniques such as casting, forging and machining.



RENISHAW OMP40-2 PROBE



APPLICATION	WORKPIECE INSPECTION AND JOB SET-UP
MACHINE TYPE	SMALL-MEDIUM
TRANSMISSION TYPE	INFRARED
OPERATING RANGE	UP TO 5M
WEIGHT WITHOUT SHANK	250G
BATTERY TYPE	AA 3.6 V
BATTERY LIFE	230- 270 HOURS
SENSE DIRECTIONS	±X, ±Y, +Z
REPEATABILITY	1.00µM

RENISHAW OLP40 PROBE



DIMENSIONS	Ø40mm X 58.3mm
MACHINE TYPE	LATHE
TRANSMISSION TYPE	INFRA-RED
PERFORMANCE ACCURACY	STANDARD
REPEATABILITY	0.1
3D PRE- TRAVEL VARIATION	N/A
MAXIMUM RECOMMENDED	
STYLI LENGTH	100mm
SWITCH ON METHOD	OPTICAL "M" CODE AUTO START
BATTERY TYPE	1/2AA

RENISHAW RLP40 PROBE



DIMENSIONS	Ø40mm X 58.3mm
MACHINE TYPE	LATHE
TRANSMISSION TYPE	RADIO
PERFORMANCE ACCURACY	STANDARD
REPEATABILITY	0.1
3D PRE- TRAVEL VARIATION	N/A
MAXIMUM RECOMMENDED	
STYLI LENGTH	100mm
SWITCH ON METHOD	OPTICAL "M" CODE SPIN
BATTERY TYPE	1/2AA

RENISHAW RMP40 PROBE



DIMENSIONS	Ø40mm X 50mm
MACHINE TYPE	COMPACT -LARGE
TRANSMISSION TYPE	RADIO
PERFORMANCE ACCURACY	STANDARD
REPEATABILITY	0.1
3D PRE- TRAVEL VARIATION	N/A
MAXIMUM RECOMMENDED	
STYLI LENGTH	100mm
SWITCH ON METHOD	RADIO "M" CODE SPIN
BATTERY TYPE	1/2AA

RENISHAW OMP400 PROBE



DIMENSIONS	Ø40mm X 50mm
MACHINE TYPE	COMPACT -SMALL
TRANSMISSION TYPE	INFRA-RED
PERFORMANCE ACCURACY	HIGH
REPEATABILITY	0.25
3D PRE- TRAVEL VARIATION	1.0
MAXIMUM RECOMMENDED	
STYLI LENGTH	200mm
SWITCH ON METHOD	OPTICAL "M" CODE AUTO START
BATTERY TYPE	1/2AA

RENISHAW OMP60 PROBE



DIMENSIONS	Ø63mm X 76mm
MACHINE TYPE	MEDIUM- LARGE
TRANSMISSION TYPE	INFRA-RED
PERFORMANCE ACCURACY	STANDARD
REPEATABILITY	1.0
3D PRE- TRAVEL VARIATION	N/A
MAXIMUM RECOMMENDED	
STYLI LENGTH	150mm
SWITCH ON METHOD	OPTICAL "M" CODE SPIN OR SHANK SWITCH
BATTERY TYPE	AA

RENISHAW RMP60 PROBE



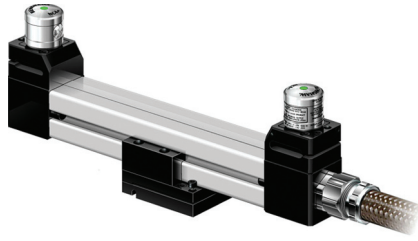
DIMENSIONS	Ø63mm X 76mm
MACHINE TYPE	MEDIUM- LARGE
TRANSMISSION TYPE	RADIO
PERFORMANCE ACCURACY	STANDARD
REPEATABILITY	1.0
3D PRE- TRAVEL VARIATION	N/A
MAXIMUM RECOMMENDED	
STYLI LENGTH	150mm
SWITCH ON METHOD	RADIO "M" CODE SPIN OR SHANK SWITCH
BATTERY TYPE	AA

RENISHAW RMP600 PROBE



DIMENSIONS	Ø63mm X 76mm
MACHINE TYPE	MEDIUM- LARGE
TRANSMISSION TYPE	RADIO
PERFORMANCE ACCURACY	HIGH
REPEATABILITY	0.25
3D PRE- TRAVEL VARIATION	1.0
MAXIMUM RECOMMENDED	
STYLI LENGTH	200mm
SWITCH ON METHOD	RADIO "M" CODE SPIN OR SHANK SWITCH
BATTERY TYPE	AA

RENISHAW NC4 TOOL SETTING PROBE



MINIMUM TOOL DETECTION Ø 0.03mm
 REPEATABILITY 1
 LASER CLASSIFICATION CLASS 2<1MW 670mm

RENISHAW TS27R TOOL SETTING PROBE



MACHINE TYPE SMALL - LARGE
 MINIMUM TOOL DETECTION Ø 1mm
 REPEATABILITY 1
 STYLUS TRIGGER FORCE 13N TO 2.4N

RENISHAW OTS TOOL SETTING PROBE



MACHINE TYPE SMALL - MEDIUM
 MINIMUM TOOL DETECTION Ø 1mm
 REPEATABILITY 1
 STYLUS TRIGGER FORCE 1.3 N TO 2.4N

RENISHAW TRS2 PROBE



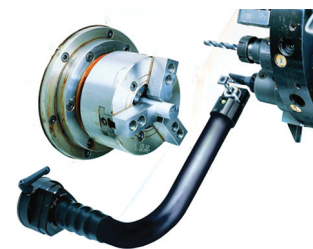
MACHINE TYPE SMALL - LARGE
 FUNCTION TOOL BREAKAGE DETECTION
 MINIMUM TOOL DETECTION Ø0.05mm
 LASER CLASSIFICATION CLASS 2<1MW 670mm

RENISHAW RP3 PROBE



MACHINE TYPE SMALL - LARGE LATHES
 FUNCTION TOOL SETTING USING
 RENISHAW ARMS
 MINIMUM TOOL DETECTION Ø1mm
 REPEATABILITY 1
 STYLUS TRIGGER FORCE 1.5N TO 3.5N
 LASER CLASSIFICATION N/A

RENISHAW RP3 PROBE



PROBE FUNCTION HPRA
 REMOVABLE ARM WITH
 HIGHLY REPEATABLE
 MOUNTING
 PROBE RP3

RENISHAW HPMA FULLY AUTOMATIC ARM

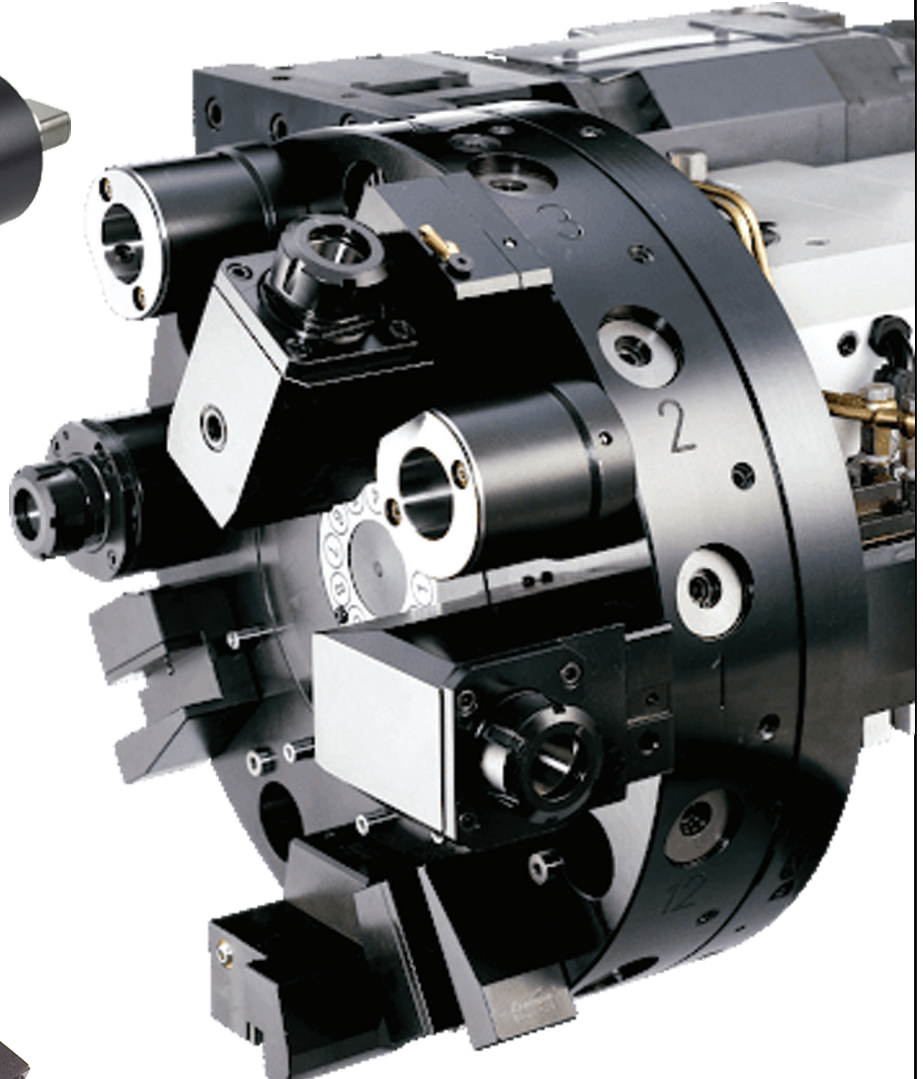


FUNCTION FULLY AUTOMATIC ARM
 WITH HIGHLY REPEATABLE
 POSITIONING
 PROBE RP3

Key Features: Rapid actuation Full program control of tool setting and broken tool detection. Available in a range of standard configurations (customised sizes can be specified). Bi-colour LED for continuous feedback on system status.



EVERMORE ROTATING AND STATIC TOOL HOLDERS



Please get in touch for more information on our full range of Evermore rotating and Static Tool Holders.



ARBOR PRESS



CODE	MODEL	PRESSURE (ton)	THROAT DEPTH (mm)	MAX HEIGHT (mm)
AP-0031	NO 1	1	100	120
AP-0032	NO 2	2	140	170
AP-0033	NO 3	3	140	300
AP-0035	NO 5	5	220	450

DRILL RE-SHARPENING MACHINES



MODEL	GRINDING RANGE (mm)	POINT ANGLE	MOTOR SPEED (rpm)
GP - 213	2 - 13	90° - 140°	5300
GP - 1234	12 - 34	90° - 140°	4600

KENT SURFACE GRINDERS



KENT MODEL KGS 510 PRECISION SURFACE GRINDER

TABLE WORKING SURFACE	1000 X 500mm
LONGITUDINAL TABLE TRAVEL	1140mm
CROSS FEED TABLE TRAVEL	540mm

KENT MODEL KGS 515 PRECISION SURFACE GRINDER

TABLE WORKING SURFACE	1000 X 500mm
LONGITUDINAL TABLE TRAVEL	1600mm
CROSS FEED TABLE TRAVEL	570mm

KENT SURFACE GRINDER MODEL KGS 615AHD

TABLE WORKING SURFACE	1500 X 600mm
LONGITUDINAL TABLE TRAVEL	1600mm
CROSSFEED TABLE TRAVEL	660mm

ONLY KENT SURFACE GRINDER MODEL KGS 620AHD

TABLE WORKING SURFACE	2000 X 600mm
LONGITUDINAL TABLE TRAVEL	2230mm
CROSSFEED TABLE TRAVEL	660mm

KENT SURFACE GRINDER MODEL KGS 715AHD,

TABLE WORKING SURFACE	1500 X 700mm
LONGITUDINAL TABLE TRAVEL	1600mm
CROSSFEED TABLE TRAVEL	760mm

KENT SURFACE GRINDER MODEL KGS 820AHD

TABLE WORKING SURFACE	2000 X 800mm
LONGITUDINAL TABLE TRAVEL	2250mm
CROSSFEED TABLE TRAVEL	885mm

KENT SURFACE GRINDER MODEL KGS 825AHD

TABLE WORKING SURFACE	2500 X 800mm
LONGITUDINAL TABLE TRAVEL	2750mm
CROSSFEED TABLE TRAVEL	885mm

KENT SURFACE GRINDER MODEL KGS 830AHD

TABLE WORKING SURFACE	3000 X 800mm
LONGITUDINAL TABLE TRAVEL	3250mm
CROSSFEED TABLE TRAVEL	885mm

ONLY KENT SURFACE GRINDER MODEL KGS 920AHD

TABLE WORKING SURFACE	2000 X 900mm
LONGITUDINAL TABLE TRAVEL	2250mm
CROSSFEED TABLE TRAVEL	960mm

KENT SURFACE GRINDER MODEL KGS 925AHD

TABLE WORKING SURFACE	2500 X 900mm
LONGITUDINAL TABLE TRAVEL	2750mm
CROSSFEED TABLE TRAVEL	960mm

KENT SURFACE GRINDER MODEL KGS 930AHD

TABLE WORKING SURFACE	3000 X 900mm
LONGITUDINAL TABLE TRAVEL	3250mm
CROSSFEED TABLE TRAVEL	960mm

KENT MODEL KGS616S SURFACE GRINDER,

OVERALL TABLE WORKING AREA	410 X 160mm
LONGITUDINAL TABLE TRAVEL	430mm
TRAVERSE TABLE TRAVEL	200mm

KENT MODEL KGS250 AHD SURFACE GRINDER,

OVERALL TABLE WORKING AREA	460 X 200mm
LONGITUDINAL TABLE TRAVEL	540mm
TRAVERSE TABLE TRAVEL	260mm

KENT MODEL KGS 1020AHD PRECISION SURFACE GRINDER

TABLE WORKING SURFACE	500 X 250mm
LONGITUDINAL TABLE TRAVEL	590mm
CROSS FEED TABLE TRAVEL	275mm

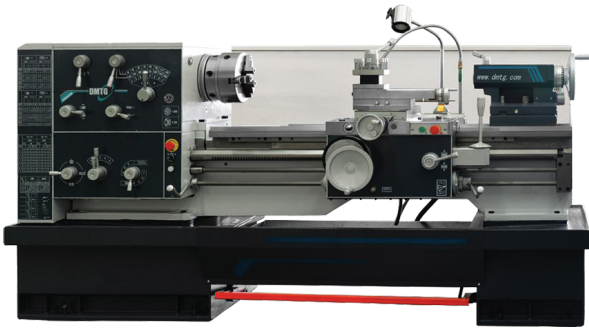
KENT MODEL KGS 63AHD PRECISION SURFACE GRINDER

TABLE WORKING SURFACE	600 X 300mm
LONGITUDINAL TABLE TRAVEL	710mm
CROSSFEED TABLE TRAVEL	340mm

KENT MODEL KGS 84AHD PRECISION SURFACE GRINDER

TABLE WORKING SURFACE	800 X 400mm
LONGITUDINAL TABLE TRAVEL	910mm
CROSSFEED TABLE TRAVEL	450mm

DMTG CDS-6250B X 2000 GAP BED LATHE



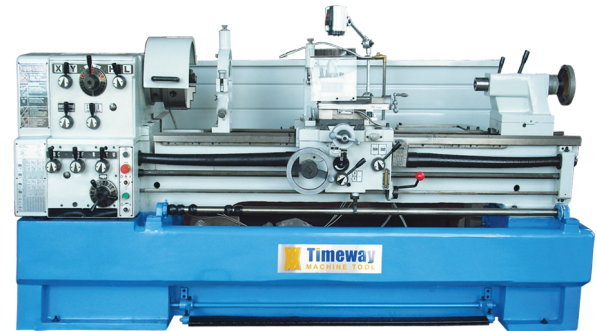
MAX. SWING OVER BED	500mm
SWING OF WORKPIECE OVER CARRIAGE	290mm
MAX. SWING IN GAP PIECE	760mm
GAP PIECE LENGTH	280mm
MAX. WORKPIECE LENGTH	2000mm
BED WIDTH	394mm
SPINDLE BORE	Ø82mm
TYPE OF SPINDLE NOSE	D8(A2-8)
FRONT SPINDLE TAPER	Ø80/1:20
RANGE OF SPINDLE SPEEDS	26-2000rpm
POWER OF MAIN MOTOR	7.5KW 10HP
PACKING SIZE (LXWXH)	3600x1226x1440
NET /GROSS WEIGHT	2310/3220kg

DMTG CDS-6266C GAP BED LATHE



MAX. SWING OVER BED	660mm
SWING OF WORKPIECE OVER CARRIAGE	440mm
MAX. SWING IN GAP PIECE	870mm
GAP PIECE LENGTH	250mm
MAX. WORKPIECE LENGTH	3000mm
TIP OF APRON	2880mm
BED WIDTH	394mm
SPINDLE BORE	Ø105mm
TYPE OF SPINDLE NOSE	D1-8
FRONT SPINDLE TAPER	Ø110/1:20
SPINDLE SPEED	26-1700r/min
POWER OF MAIN MOTOR	7.5 KW 10HP
OVERALL DIMENSION (L X W X H)	4.6X1.186X1.55M
NET/GROSS WEIGHT	3150 KG/4110kg

TIMEWAY CL-510 X 1500 GAP BED LATHE



SWING OVER BED	510mm
SWING OVER CROSS SLIDE	305mm
SWING IN GAP	735mm
LENGTH OF GAP	170mm
DISTANCE BETWEEN CENTERS	1500mm
WIDTH OF BED	350mm
SPINDLE NOSE	D1-8
SPINDLE BORE	80mm
TAPER OF SPINDLE BORE	MT 7
RANGE OF SPINDLE SPEED	25-2000mm/min
POWER OF MAIN MOTOR	7.5kw
PACKING SIZE (LXWXH)	2840x1150x1430mm
NET WEIGHT/GROSS WEIGHT	2700/3070

TIMEWAY CM-400 X 1000 GAP BED LATHE



SWING OVER BED	410mm
SWING OVER CROSS SLIDE	255mm
SWING IN GAP	580mm
LENGTH OF GAP	250mm
DISTANCE BETWEEN CENTERS	1000, 1500mm
WIDTH OF BED	250mm
SPINDLE NOSE	D1-6
SPINDLE BORE	52mm
TAPER OF SPINDLE BORE	NO.6 Morse
MAX SPINDLE SPEED	1800rpm
GROSS WEIGHT	1800, 2100kg

JACKMILL/STARTEC CYLINDRICAL GRINDER

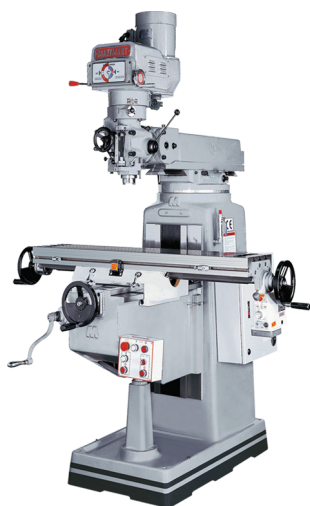
JMC600H



DISTANCE BETWEEN CENTERS	600mm
MAX. GRINDING DIAMETER	260mm
WHEEL SPINDLE SPEED	2000rpm

MAXIMART TURRET MILL

2VS/4VS



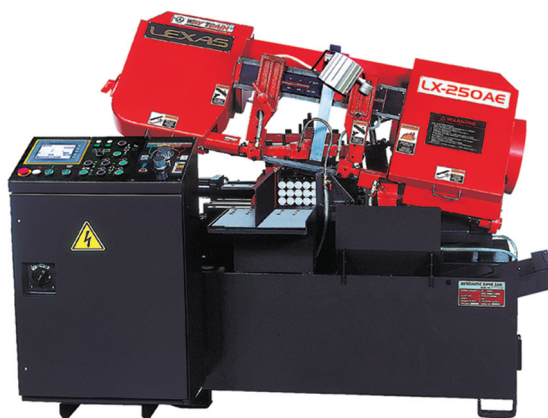
MODEL X6323 - 2VS MILLING MACHINE
WITH 3 AXIS D.R.O. AND POWER FEED X & Y AXIS

TABLE SIZE	1246 X 230mm
SPINDLE TAPER	R8
SPINDLE SPEEDS	65-4500rpm
MOTOR	3HP

MODEL X6325D - 4VS MILLING MACHINE
WITH 3 AXIS D.R.O. AND POWER FEED X & Y AXIS

TABLE SIZE	1370 X 254mm
SPINDLE TAPER	ISO 40
SPINDLE SPEEDS R.P.M.	65 3750rpm
MOTOR	5HP

LEXAS FULLY AUTOMATIC BANDSAWS



LX 250AE

CUTTING CAPACITY	○ 250mm
	■ 250 X 300mm

LX 330

CUTTING CAPACITY	○ 330mm
	■ 330 X 330mm

LX 400

CUTTING CAPACITY	○ 420mm
	■ 415 X 415mm



COLD SAWS

CS315/CS275



CS-315

CUTTING CAPACITY 90°	50mm, 100mm 82 X 82mm 110 X 70mm
CUTTING CAPACITY 45°	50MM, 100mm 82 X 82mm 85 X70mm

MAIN MOTOR	2HP
SPINDLE SPEED	50HZ
SAW BLADE	2.0mm X 32
MAXIMUM VISE OPENING	120mm

CS-275

CUTTING CAPACITY 90°	30mm, 75mm 65X65mm 90X50mm
CUTTING CAPACITY 45°	30MM, 65mm 55X55mm 60X50mm

MAIN MOTOR	1-1/2 HP
SPINDLE SPEED	50HZ
SAW BLADE	2.0mm X32
MAXIMUM VISE OPENING	100mm

CUT OFF SAW - ABRASIVE



MODEL	16
CAPACITY ROUND/SQUARE	130mm/120mm
ANGLE CUTTING 45°	115mm
WHEEL DIA & HOLE	405 X25.4mm
MOTOR	5HP, 3KW

GEARED HEAD DRILLS

H5-3C/Z5030/Z5050



Z5035

MAX DRILL	35mm
MAX TAP	M24
QUILL STROKE	200mm
SPINDLE TAPER	4 M/T
SPINDLE SPEED STEPS	12
SPINDLE SPEED	70-2600rpm

Z5050

MAX DRILL	50mm
MAX TAP	M24
SPINDLE BORE TAPER	4
SPINDLE SPEED STEPS	12
SPINDLE SPEED	42-2050rpm

H5-3C



- 25mm DRILLING CAPACITY
- 2 SPEED MOTOR: 0.85/1.1KW/380V
- DISTANCE FROM AXIS TO SPINDLE 24mm
- DISTANCE FROM SPINDLE NOSE TO TABLE 830MM
- 110MM SPINDLE TRAVEL
- 3MT SPINDLE BORE
- 12 SPEEDS

BELT AND DISC SANDER



SB12 220V

MOTOR	1 1/2 HP
SPEED	2850RPM
DISC	12" (305mm)
BELT	6" (150mm) X 48" (1220mm)
ELECTRICS	220VOLT
DIRECT DRIVE	



BENCH GRINDER



GR-811

WHEEL DIAMETER	200mm
WHEEL WIDTH	25mm
BORE	20mm
MOTOR POWER	1/5HP
VOLTAGE	220V
SPEED	1 PHASE 2850RPM
WEIGHT	20KGS

GR-1001 & GR-1003



GR-1001

WHEEL DIAMETER	250mm
WHEEL WIDTH	25mm
BORE	25.4mm
MOTOR POWER	0.75KW
VOLTAGE	220V
SPEED	1 PHASE 1420RPM
WEIGHT	37.5KGS

GR-1003

WHEEL DIAMETER	250mm
WHEEL WIDTH	25mm
BORE	25.4mm
MOTOR POWER	0.75
VOLTAGE	380V
SPEED	3 PHASE 1450RPM
WEIGHT	37.5KGS

BENCH GRINDER



STAND FOR GR811 GRINDER

HEIGHT	820
TABLE SIZE	270 X 210
BASE SIZE	270 X 300

STAND FOR GR1001/1003

HEIGHT	800
TABLE SIZE	310 X 280
BASE SIZE	373 X 390

BELT DRIVE DRILLING MACHINE

CH18B/CH18F/CH25(30)



CH-18B - BENCH

MAX. DRILLING CAPACITY	16mm
SPINDLE TAPER:	MT2
CHUCK:	16mm Max.
SPINDLE STROKE:	82mm
SWING:	430mm
NUMBER OF SPEEDS:	12 SPEED
RANGE:	280-2300rpm

MODEL CH-18F

MAX. DRILLING CAPACITY	16mm
SPINDLE TAPER	MT2
CHUCK	16mm Max.
SPINDLE STROKE	82mm
SWING	430mm
NUMBER OF SPEEDS	12
SPEED RANGE	280-2300rpm

MODEL CH-25 & (CH-30)

MAX. DRILLING CAPACITY	25mm (32mm)
SPINDLE TAPER	MT3 (MT4)
CHUCK	16mm (16mm)
MAX. SPINDLE STROKE	122mm
	(122mm)
SWING	535mm
	(535mm)
NUMBER OF SPEEDS	12 (12)
SPEED RANGE	150-3490rpm
	(150-3490)

NIKKEN 4TH & 5TH AXIS ROTARY TABLES

CNC105/CNCZ105 COMPACT 4TH AXIS ROTARY TABLE



MODEL	CNC105	CNCZ105
TABLE DIA	105mm	105mm
SPINDLE HOLE DIA	60X30mm	60X30mm
CENTRE HEIGHT	105mm	105mm
WIDTH OF T SLOT	10H7 Pin Hole	10H7 Pin Hole
CLAMPING TORQUE	205N.M	205N.M
MIN. INCREMENT	0.001°	0.001°
ROTATION SPEED	22.2min ⁻¹	44.4min ⁻¹
INDEXING ACCURACY	±30sec	±30sec
MAX TABLE LOAD		
VERTICAL	30kg	30kg
HORIZONTAL	60kg	60kg

NIKKEN 5AX-201 COMPACT 5TH AXIS ROTARY TABLE



DIAMETER OF TABLE	200mm	
SPINDLE HOLE DIA	Ø60H7 X Ø50mm	
CENTRE HEIGHT	180mm	
WIDTH OF T SLOT	12mm	
AXIS	ROTARY	TILTING
CLAMPING SYSTEM (AIR)	HYDRAULIC	HYDRAULIC
CLAMPING TORQUE	588N.M	612N.M
MIN. INCREMENT	0.001°	0.001°
ROTATION SPEED	22.2min ⁻¹	16.6min ⁻¹
TOTAL REDUCTION RATIO	1/90	1/120
INDEXING ACCURACY	20sec	60sec
NET WEIGHT		160kg
MAX TABLE LOAD (0° TO 30°)		60kg
MAX TABLE LOAD (30° TO 90°)		40kg

NIKKEN PRE-SETTERS

ELBO CONTROLLI-NIKKEN E236N TOOL PRESETTER



MEASURING RANGE	X-AXIS 130mm [60mm dia]
MEASURING RANGE	Z-AXIS 360mm
MEASURING RESOLUTION	X-AXIS 0.001mm
MEASURING RESOLUTION	Z-AXIS 0.001mm

ELBO CONTROLLI-NIKKEN HATHOR SIX TOOL PRESETTER



X AXIS MEASURE (DIAMETER)	400
Z AXIS MEASURE (LENGTH)	600
OPTICAL SCALE AXES RESOLUTION	1µM
MAIN CAMERA MAGNIFICATION	30X
MAIN CAMERA MEASURING RANGE	6.4x6.4mm
AXES RESOLUTION (µM)	X=1, Z=1

NIKKEN ANGLE HEADS



ALBERTI STANDARD ANGLE HEADS



MIMATIC STANDARD ANGLE HEADS



MIMATIC SPECIAL ANGLE HEADS



ALBERTI ELECTROSPINDLE 'LEONARDO' SYSTEM ATC40

NIKKEN SPINDLE SPEEDERS



NIKKEN manufactures reliable NX & PX speeder solutions - output speeds of 20000 to 40000rpm. NIKKEN also offers the AX5 solution. This unit provides a 25000rpm output speed, and features an exclusive jet array which not only directs coolant to the cutting edge, but also cools the body itself.

SISMA SWA 150/300

LASER MOULD REPAIR AND WELDING SYSTEMS



LASER SOURCE	ND YAG FLASH LAMP
AVERAGE POWER	150W
PEAK POWER	10,5kW
MAX PULSE ENERGY	100J
PULSE DURATION	0,3 - 25

BIG SMARKY 200F

LASER MARKING MACHINE



FLEXIBLE AND ECONOMIC LASER SYSTEM FOR MARKING PLASTICS AND METALS.

Z-AXIS	415mm
OUTPUT POWER	20W
WAVE LENGHT	1064Nm

SISMA BSS YAG 3D

LASER ENGRAVING MACHINE



SPECIFICALLY DESIGNED FOR 2D AND 3D DEEP ENGRAVING ON MOULDS, MATRIX, PUNCHES & ELECTRODES.

WAVE LENGTH	1064Nm
WORKING AREA	600X800X450Hmm
REPEATIBILITY	+/- 0,02mm
POWER SUPPLY	230V



SISMA 'EASY' 200F EP

ALL-IN-ONE DESKTOP LASER MARKING SYSTEM.



ACTIVE MATERIAL	YB
AVERAGE LASER POWER	20W
WAVELENGTH	1059-1064Nm
WORKING FREQUENCY	1-1000kHz
PULSE ENERGY	0,03-1MJ
Z AXES STROKE	290mm
Z AXES PRECISION	0,05mm
REPEATABILITY	0,02mm
MAX PIECE WEIGHT	25kg

SISMA 'LOGO' DIODE MARKING LASER



WAVELENGTH	1064Nm
PEAK POWER	20KW
PULSE DURATION	4NS
WORKING TABLE DIMENSION	200X160X180 WITH LENS 100mm
"Z"AXIS	MANUAL
FREQUENCY	FIXED
FOCUS KIT	INCLUDED
DIMENSIONS 4	81X446X604mm
WEIGHT	35KG

SISMA LMD 60

MANUAL LASER WELDING SYSTEM



POWER SUPPLY	230V 50/60Hz
AVERAGE POWER	60W
PEAK PULSE POWER	7,5KW
PULSE ENERGY	90J
PULSE DURATION	0,3-30MS
PULSE FREQUENCY	0-20Hz
WELDING SPOT DIAMETER	0,2 ÷ 2mm
FOCUS ADJUSTMENT	MOTORIZED
PROGRAMMING MEMORY	UP TO 250

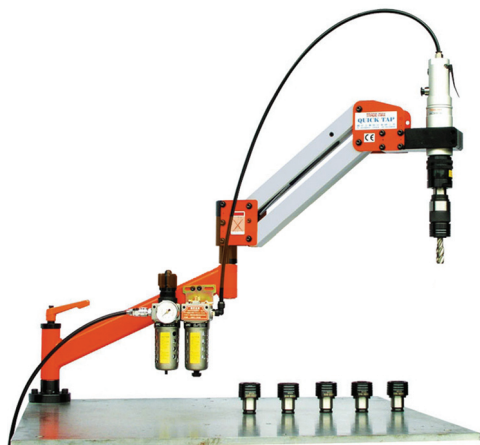
SISMA OEM 20

LASER MARKING AND ENGRAVING SYSTEM



AVERAGE OUTPUT POWER	1070Nm
LASER TECHNOLOGY	YB
REPETITION RATE RANGE	2-200kHz
PULSE WIDTH	200NS
MAX PULSE ENERGY	0.8
BEAM SPOT DIAMETER	20
COOLING SYSTEM	FORCED-AIRED
POWER SUPPLY	230V
MAX POWER CONSUMPTION	800W, 4A
OPTICAL FIBER LENGTH	3M SMA CONNECTOR

TRADE MAX AIR TAPPING MACHINE



AQ-08-950

SPEED 0-700rpm
WORK RANGE RMAX - 950mm rmin - 50mm

AQ-12-950

SPEED 0 - 400rpm
WORK RANGE: RMAX - 950mm Rmin - 100mm

AQ-16-950

SPEED 300rpm
WORK RANGE:RMAX 950mm - rmin 100mm

AQ-20-1000

SPEED 150/400rpm
WORK RANGE RMAX - 1000mm rmin - 100mm

AQ-22-1000

SPEED 120/300rpm
WORK RANGE RMAX - 1000mm rmin - 100mm

AQ-24-1000

SPEED 100/300rpm
WORK RANGE RMAX - 1000mm rmin - 100mm

AQ-27-1000

SPEED 70/220rpm
WORK RANGE RMAX - 1000mm rmin - 100mm

AQ-30-1000

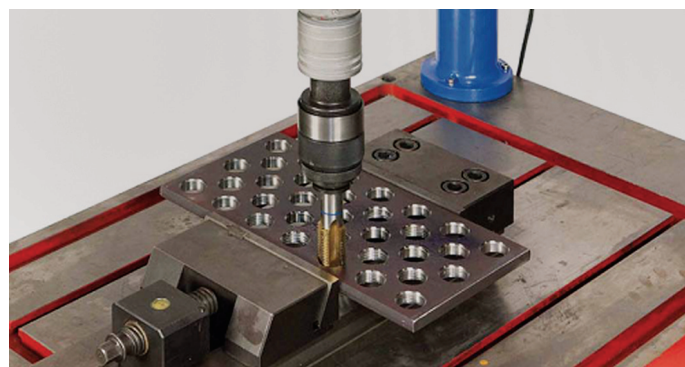
SPEED 40/200rpm
WORK RANGE RMAX - 1000mm rmin - 100mm

TRADE MAX ELECTRIC TAPPING MACHINE

MODEL EMT-32



TAPPING-POWER M3 - M32
SPEED 0-300rpm/0-55rpm
OPERATING RANGE RMIN - 200mm RMAX - 1500mm
WEIGHT 260kg
ADAPTER TYPE TCS 3B



Standard Equipment

- Electric tapping spindle
- Parallel arm
- Main pillar with fitting flange
- 6 Piece Safety-Clutch tapping adapters
- Radial jib
- Electrical control unit

LEADER PROFILE PROJECTOR VOC 1505

VOC1505



ACCURACY	(3+L/75)
X-AXIS TRAVEL	150mm
Y-AXIS TRAVEL	50mm
Z-AXIS TRAVEL	90mm

HOC400



ACCURACY	4+L/75
X-AXIS TRAVEL	250mm
Y-AXIS TRAVEL	100mm
Z-AXIS TRAVEL	150mm



STARRET HB400

HORIZONTAL BENCHTOP OPTICAL COMPARATOR



CODE	XxY TRAVEL	WORK STAGE	FOCUS RANGE
HB400	300 x 150mm	540 x 130mm	50mm

STARRET VIDEO MEASURING SYSTEMS

MV300



X/Y/Z MEASURING RANGE	300X150X125mm
X/Y ACCURACY IN μM	E1=3.5+5L/1000
Z ACCURACY IN μM	E1=2.5+5L/1000
CONTROL SOFTWARE	METLOGIX M3

MV300

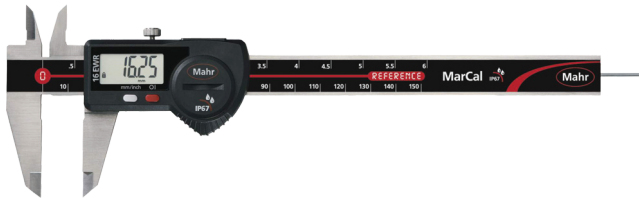


X/Y/Z TRAVEL	300/150/135mm
X/Y ACCURACY (μM)	E2=1.9 μM +5L/1000
Z ACCURACY (μM)	E1=2.5 μM +5L/1000
SCALE RESOLUTION	0.1 μM

MICROMAR DIGITAL CALIPERS

Mahr

MARCAL 16 EWR



High contrast analog display | Locking screw above
Lapped guideway | Measuring blade for inside measurements
Slide and beam made of hardened stainless steel
Immediate measurements - Reference System
Raised guideway for the protection of the scale
Battery life 3 years | Height of digits 11 mm

MEASURING RANGE (mm)	RESOLUTION (mm)	ERROR LIMIT (mm)
0 - 150	0.01	0.03
0 - 150	0.01	0.03
0 - 150	0.01	0.03
0 - 150	0.01	0.03
0 - 200	0.01	0.03
0 - 200	0.01	0.03
0 - 300	0.01	0.04
0 - 300	0.01	0.04

MICROMAR DIGITAL MICROMETERS

40 EWR



MEASURING RANGE (mm)	RESOLUTION (mm)	ERROR LIMIT (μM)	SPINDLE DIA. (mm)
0-25	0.001	2	6.5
25-50	0.001	2	6.5
50-75	0.001	3	6.5
75-100	0.001	3	6.5

IP65 rated with data output • TOL function as standard

MICROMAR INSIDE MICROMETERS

Mahr

2-POINT

44 C



MEASURING RANGE (mm)	GRADUATION VALUE (mm)	ERROR LIMIT (μM)	SPINDLE THREAD PITCH (mm)
100-125	0,01	6	0.5
100-150	0,01		0.5
100-300	0,01		0.5
100-500	0,01		0.5
100-900	0,01		0.5

44 F



MEASURING RANGE (mm)	GRADUATION VALUE (mm)	ERROR LIMIT (μM)	SPINDLE THREAD PITCH (mm)
30-40	0,01	4	0.5
40-50	0,01	4	0.5
50-70	0,01	5	0.5
70-100	0,01	5	0.5
100-125	0,01	6	0.5
125-150	0,01	6	0.5
150-175	0,01	7	0.5
175-200	0,01	7	0.5



MICROMAR INSIDE MICROMETERS

Mahr

SELF-CENTERING

44A



MEASURING RANGE (mm)	GRADUATION VALUE (mm)	ERROR LIMIT (μ)	SPINDLE THREAD PITCH (mm)
6-8	0,001	4	0.5
8-10	0,001	4	0.5
10-12	0,001	4	0.5
12-16	0,001	4	0.5
16-20	0,001	4	0.5
20-25	0,005	4	0.5
25-3	0,005	4	0.5
30-40	0,005	4	0.5
40-50	0,005	4	0.5
50-60	0,005	5	0.5
60-70	0,005	5	0.5
70-85	0,005	5	0.5
85-100	0,005	5	0.5
100-125	0,005	6	0.5
125-150	0,005	6	0.5
150-175	0,005	7	0.5
175-200	0,005	7	0.5

44AS



MEASURING RANGE (mm)	GRADUATION VALUE (mm)	ERROR LIMIT (μM)
6-12	0,001	4
12-20	0,001	4
20-50	0,005	4
50-100	0,005	5

MICROMAR DIGITAL INSIDE MICROMETERS

Mahr

SELF-CENTERING

44 EWR SET



MEASURING RANGE (mm)	RESOLUTION (mm)	ERROR LIMIT (μM)
6-12	0.001	4
12-20	0.001	4
20-50	0.001	4
50-100	0.001	5

44 EWR



MEASURING RANGE (mm)	RESOLUTION (mm)	ERROR LIMIT (μM)
6-8	0.001	4
8-10	0.001	4
10-12	0.001	4
12-16	0.001	4
16-20	0.001	4
20-25	0.001	4
25-30	0.001	4
30-40	0.001	4
40-50	0.001	4
50-60	0.001	5
60-70	0.001	5
70-85	0.001	5
85-100	0.001	5
100-125	0.001	6
125-150	0.001	6
150-175	0.001	7
175-200	0.001	7

MICROMAR MEASURING PISTOL SET

Mahr

SELF-CENTERING

844AS



MEASURING RANGE (mm)	RESOLUTION (mm)	ERROR LIMIT (µm)
6-12		4
12-20		4
20-50		4
50-100		5
6-12	0.0005	4
12-20	0.0005	4
20-50	0.0005	4
50-100	0.0005	5

844A



MEASURING RANGE (mm)	ERROR LIMIT (µM)
6 - 8	3
8 - 10	3
10 - 12	3
12 - 16	3
16 - 20	3
20 - 25	3
25 - 30	3
30 - 40	3
40 - 50	3
50 - 60	4
60 - 70	4
70 - 85	4
85 - 100	4
100 - 125	5
125 - 150	5
150 - 175	6
175 - 200	6

MICROMAR COMPONENTS

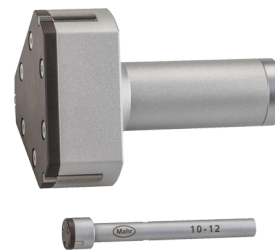
Mahr

44EWG



MEASURING RANGE (mm)	RESOLUTION (mm)
6 - 20	0.001
20 - 100	0.001
100 - 200	0.001

44AK



MEASURING RANGE (mm)

6 - 8	8 - 10
10 - 12	12 - 16
16 - 20	20 - 25
25 - 30	30 - 40
40 - 50	50 - 60
60 - 70	70 - 85
85 - 100	100 - 125
125 - 150	150 - 175
175 - 200	

844AG



MEASURING RANGE (mm)

6-100
20-100
100-200

DIGIMAR HEIGHT MEASURING INSTRUMENT

Mahr



- EXCELLENT ACCURACY AND RELIABILITY DUE TO THE OPTICAL INCREMENTAL MEASUREMENT SYSTEM WITH THE DOUBLE READER HEAD
- DYNAMIC PROBING SYSTEM ENABLING HIGH REPEATABILITY
- AIR BEARINGS SYSTEM FOR LIGHT AND SMOOTH MOVEMENT
- PRECISE MEASURING HEAD ON STAINLESS STEEL GUIDEWAYS
- MOTORIZED MEASURING CARRIAGE SIMPLIFIES MEASUREMENT RUNS
- PROBE CONSTANT REMAINS AFTER THE INSTRUMENT IS SWITCHED OFF
- INTEGRATED RECHARGEABLE BATTERY WITH A LONG OPERATING TIME SPAN FOR POWER SOURCE INDEPENDENT MEASUREMENT

DATA INTERFACE: USB/RS-232C/WIRELESS
MEASURING FORCE: 1.0 +/- 0.2 N

MEASURING RANGE (mm)	HIGHEST RESOLUTION (mm)	ERROR LIMIT	PRODUCT WEIGHT (kg)
0-350	0.0001	(1,8+L/600) L IN mm	25
0-600	0.0001	(1,8+L/600) L IN mm	30
0-1000	0.0001	(1,8+L/600) L IN mm	35

DIGIMAR HEIGHT MEASURING INSTRUMENT

Mahr



MEASURING RANGE (mm)	RESOLUTION LIMIT (mm)	ERROR LIMIT (µm)	PRODUCT WEIGHT(kg)
0-350	0.01	40	7
0-600	0.01	50	8

MULTIMAR UNIVERSAL MEASURING INSTRUMENT

Mahr



APPLICATION RANGE OUTSIDE (mm)	APPLICATION RANGE INSIDE (mm)	MEASURING FORCE (n)	PRODUCT WEIGHT (Kg)
0-85	30-155	5N	0.78
80-235	110-265	5N	1.01
230-585	260 - 615	5N	1.59
580-985	610 - 1015	5N	2.22
970-1470	1000 - 1500	10N	2.52
1470-1970	1500-2000	10N	2.68
1970-2470	2000-2500	10N	2.86
2470-2970	2500-3000	10N	3.26
2970-3470M	3000-3500	10N	3.43
3470-3970	3500-4000	10N	3.62
3970-4470	4000-4500	10N	3.8

MARCATOR DIGITAL INDICATORS

Mahr

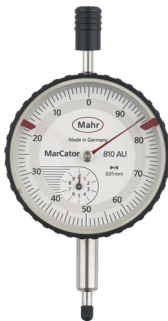


Resolutions
10µm, 5µm,
1µm, 0.1µm

- Available as standard with digital or analog & digital display.
- Easily check parts with Mahr's built-in Tolerance and Runout functions.
- view your data on the device itself or send the data to a PC via USB for analysis.

MARCATOR MECHANICAL INDICATORS

Mahr



Accuracy range
100µm down to 1µm.
Measuring range
from 40mm to 1mm.

- Available with revolution counter and small, standard or large face options, as well as limited range systems for special applications.
- Available in metric or imperial standards.

MARSTAND MEASURING TRIPOD

Mahr

815 MG - WITH MAGNETIC BASE



3D jointed arm can reach any position within the operating range.
Easy positioning of all three joints

BASE SURFACE (mm)	FINE ADJUSTMENT (mm)	HEIGHT (mm)	PROJECTION (mm)
36X30X35	5	222	130
60X50X55	5	310	200
60X50X55	5	390mm ²	80

MARTEST TEST INDICATORS

Mahr



- Available as digital or analog, in standard, vertical or horizontal configurations.
- Stylus lengths from 9mm to 41 mm and accuracies of 10µm, 2µm or 1µm.
- Our digital range is also available with Mahrs built-in Runout functionality.
- Also available with revolution counter and small or large face options.
- Digital and Mechanical 3D tester options are available

MARSURF PS10 ROUGHNESS TESTING SYSTEM

The MarSurf PS10 from Mahr is a practical roughness measuring unit for mobile use.

Mahr



- Compact roughness measuring instrument for mobile use
- Simple and intuitive to use: as easy as using a smart phone
- Large, illuminated 4.3" TFT touch display Adjustable display
- Data backup as TXT, X3P, CSV or PDF file
- Create complete PDF measuring records directly in the measuring instrument
- Customized comments for the PDF measuring record can be entered directly into the MarSurf PS 10
- Mains-independent operation: Over 1200 measurements without having to recharge the instrument
- An all-in-one solution. Small and lightweight (approx. 500 g)
- Instrument flexibility: removable drive unit
- 31 surface parameters: offer the same range of functions as a laboratory instrument
- Roughness standard stored within housing aids in reducing errors
- Quick access to your frequently used functions via the Favorites list in the display
- Automatic cutoff selection, so even non-specialists can be sure of getting the correct measuring results

WD Hearn MACHINE TOOLS
ESTABLISHED 1937

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