

SOWA TOOLING SOLUTIONS

PRICING VALID FROM JANUARY 1 TO MARCH 31 2008

FREE MACHINE VISE!



- 40 taper tooling balanced to 20,000 RPM'S
- CAT50 taper tooling balanced to 15,000 RPM'S
- Traverse ground throughout
- AT3 or better taper accuracy
- Maximum TIR 0.0002" O.D. TO I.D.
- Each holder balanced with Hoffman machine
- Increase your spindle life
- Each holder comes with inspection report



Purchase a CAT 40 Package for \$1,399.00 & receive a FREE 6" x 7.5" Opening GS Machine Vise
Code No. 327-275 a \$375.38 value

CAT 40 PACKAGE & FREE VISE PROMO			CODE 500-125
Code No.	Qty.	Description	
531002	1 pc	Cat40-1/4-2.50"	EndMill Holder
531014	1 pc.	Cat40-3/8-2.50"	EndMill Holder
531026	1 pc.	Cat40-1/2-2.50"	EndMill Holder
531034	1 pc.	Cat40-5/8-3.00"	EndMill Holder
531042	1 pc.	Cat40-3/4-300"	EndMill Holder
531056	1 pc.	Cat40-1"-4.00"	EndMill Holder
531196	1 pc.	Cat40-1"-1.75"	Shell Mill Holder
531408	2 pcs.	Cat40 ER16-3.50"	Collet Chuck
531424	2 pcs.	Cat40 ER32-3.13"	Collet Chuck
337380	1 Set	ER16 3/32-3/8"	Collet Set (10 pc)
337384	1 Set	ER32 1/8-3/4"	Collet Set (18 pc)

Purchase a CAT 50 Package for \$1,799.00 & receive a FREE 6" x 8.9" Opening GS Machine Vise
Code No. 327-290 a \$444.68 value

CAT 50 PACKAGE & FREE VISE PROMO			CODE 500-126
Code No.	Qty.	Description	
531100	1 pc.	Cat50 3/8-2.50"	EndMill Holder
531120	1 pc.	Cat50 1/2-4.00"	EndMill Holder
531130	1 pc.	Cat50 5/8-4.00"	EndMill Holder
531140	1 pc.	Cat50 3/4-4.00"	EndMill Holder
531154	1 pc.	Cat50 1"-4.00"	EndMill Holder
531162	1 pc.	Cat50 1-1/4-4.00"	EndMill Holder
531224	1 pc.	Cat50 1-1/4-1.75"	ShellMill Holder
531434	2 pcs.	Cat50 ER16-6.00"	Collet Chuck
531456	2 pcs.	Cat50 ER32-6.00"	Collet Chuck
337380	1 Set	ER16 3/32-3/8"	Collet Set (10 pc)
337384	1 Set	ER32 1/8-3/4"	Collet Set (18 pc)

Purchase a BT 40 Package for \$1,399.00 & receive a FREE 6" x 7.5" Opening GS Machine Vise
Code No. 327-275 a \$375.38 value

BT 40 PACKAGE & FREE VISE PROMO			CODE 500-127
Code No.	Qty.	Description	
532020	1 pc.	BT40-1/4-2.50"	EndMill Holder
532032	1 pc.	BT40-3/8-2.50"	EndMill Holder
532040	1 pc.	BT40-1/2-2.50"	EndMill Holder
532046	1 pc.	BT40-5/8-2.50"	EndMill Holder
532052	1 pc.	BT40-3/4-2.50"	EndMill Holder
532062	1 pc.	BT40-1"-3.56"	EndMill Holder
532088	1 pc.	BT40-1"-1.75"	Shell Mill Holder
532180	2 pcs.	BT40 ER16-3.50"	Collet Chuck
532196	2 pcs.	BT40 ER32-3.13"	Collet Chuck
337380	1 Set	ER16 3/32-3/8"	Collet Set (10 pc)
337384	1 Set	ER32 1/8-3/4"	Collet Set (18 pc)



INSIDE

Endmill Holders Pg.2

Red Ring Powdered Metal Taps Pg.3

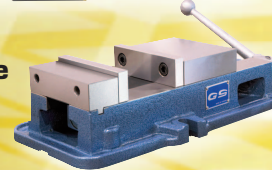
Yellow Ring Machine Taps Pg.45



Asimeto Precision Tools Pg.6-7



GS Machine Vises Pg.8



ENDMILL HOLDERS

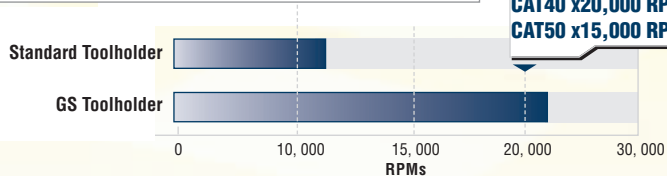
**SAVE 20%
ENDMILL HOLDERS**



GS End Mill Holders

- Traverse ground shank to obtain optimum accuracy
- Meets or exceeds ANSI specifications
- .0002" TIR or better ensures the best possible cutting tool life

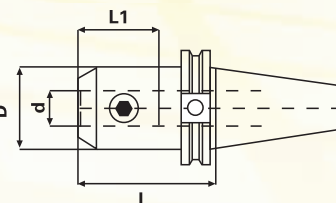
Each holder comes complete with certificate



BT30 x20,000 RPMs
BT40 x20,000 RPMs
CAT40 x20,000 RPMs
CAT50 x15,000 RPMs

PREMIUM BALANCED

40 Taper UP TO 20,000 RPMs
50 Taper UP TO 15,000 RPMs



BT 30		BT 40		CAT 40		CAT 50	
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Hole Dia. (d)	Gage Length (L)	L1	D	Code No.	Special \$	Code No.	Special \$	Code No.	Special \$	Code No.	Special \$
1/8	1.38"	0.63	0.75"	-	-	531-019	70.40	531-069	70.40	-	-
1/8	2.50"	0.63	0.75"	-	-	531-021	73.60	531-070	73.60	-	-
1/8	4.00"	0.63	0.75"	-	-	531-023	76.80	531-071	76.80	-	-
3/16	1.38"	0.63	0.75"	-	-	531-025	70.40	531-072	70.40	-	-
3/16	2.50"	0.86	0.75"	-	-	531-027	73.60	531-073	73.60	-	-
3/16	4.00"	0.86	0.75"	-	-	531-029	76.80	531-074	76.80	-	-
1/4"	1.38"	1.18"	0.79"	-	-	532-018	68.46	531-000	65.21	-	-
1/4"	2.50" (BT30 2.36")	1.10"	0.79"	532-000	65.03	532-020	68.46	531-002	68.46	531-084	100.67
1/4"	4.00"	1.10"	0.79"	-	-	532-022	71.81	531-004	71.81	531-086	100.67
5/16"	1.38"	1.34"	0.87"	-	-	532-024	68.46	531-006	65.21	-	-
5/16"	2.50" (BT30 2.36")	1.26"	0.87"	532-002	65.03	532-026	67.32	531-008	68.46	531-092	97.06
5/16"	4.00"	1.26"	0.87"	-	-	532-028	70.66	531-010	71.81	531-094	97.06
3/8"	1.38"	1.34"	1.00"	-	-	532-030	68.46	531-012	65.21	531-098	91.87
3/8"	2.50" (BT30 2.36")	1.26"	1.00"	532-004	65.03	532-032	68.46	531-014	68.46	531-100	91.87
3/8"	4.00"	1.26"	1.00"	-	-	532-034	71.81	531-016	71.81	531-102	100.67
3/8"	5.00"	1.26"	1.00"	-	-	-	-	531-018	78.06	-	-
7/16"	2.50" (BT30 2.36")	1.50"	1.38"	532-006	65.03	532-036	67.32	531-020	67.32	531-108	88.26
7/16"	4.00"	1.50"	1.38"	-	-	-	-	531-022	70.66	531-110	97.06
1/2"	1.75"	1.50"	1.38"	-	-	532-038	68.46	531-024	65.21	531-116	91.87
1/2"	2.50" (BT30 2.36")	1.50"	1.38"	532-008	65.03	532-040	68.46	531-026	68.46	531-118	91.87
1/2"	4.00"	1.50"	1.38"	-	-	532-042	71.81	531-028	71.81	531-120	100.67
1/2"	5.00"	1.50"	1.38"	-	-	-	-	531-030	81.05	-	-
5/8"	1.75"	1.61"	1.65"	-	-	532-044	68.46	531-032	65.21	531-126	91.87
5/8"	BT 2.50" CT 3.00"	1.61"	1.65"	532-010	65.03	532-046	68.46	531-034	68.46	531-128	91.87
5/8"	4.00"	1.61"	1.65"	-	-	532-048	71.81	531-036	71.81	531-130	100.67
5/8"	5.50"	1.61"	1.65"	-	-	-	-	531-038	78.06	-	-
3/4"	1.75"	1.77"	1.89"	-	-	532-050	68.46	531-040	65.21	531-136	91.87
3/4"	BT 2.50" CT 3.00"	1.77"	1.75"	532-012	65.03	532-052	68.46	531-042	68.46	531-138	91.87
3/4"	4.00"	1.77"	1.75"	-	-	532-054	71.81	531-044	71.81	531-140	100.67
3/4"	5.50"	1.77"	1.75"	-	-	-	-	531-046	78.06	-	-
7/8"	1.75"	2.08"	1.94"	-	-	-	-	531-048	65.21	531-146	91.87
7/8"	3.50"	2.08"	2.00"	532-014	65.03	532-056	68.46	531-050	68.46	531-148	90.90
7/8"	6.00"	2.08"	2.00"	-	-	532-058	81.93	531-052	81.22	531-150	109.56
1"	2.00"	2.36"	2.25"	-	-	532-060	68.46	531-054	65.21	531-152	91.87
1"	BT 3.56" CT 4.00"	2.36"	2.36"	532-016	65.03	532-062	68.46	531-056	71.81	531-154	94.16
1"	6.00"	2.36"	2.36"	-	-	532-064	81.93	531-058	81.93	531-156	109.82
1-1/4"	2.00"	2.28"	2.25"	-	-	532-066	68.46	531-060	65.21	531-160	104.72
1-1/4"	BT 3.56" CT 4.00"	2.55"	2.48"	-	-	532-068	68.46	531-062	71.81	531-162	109.82
1-1/4"	6.00"	2.55"	2.48"	-	-	532-070	81.93	531-064	81.93	531-164	121.70
1-1/2"	4.50"	2.55"	2.99"	-	-	532-072	77.70	531-066	82.37	531-170	109.82
1-1/2"	6.00"	2.83"	2.99"	-	-	532-074	66.53	531-068	92.14	-	-

SAVE 30%



P-HSS TAPS

P-HSS - POWDERED METAL

- Used for heat resistant materials, high strength stainless steel and titanium alloys as well as other high tensile steels and alloys including tool steel and nickel alloys
- Up to 48 HRC
Powdered Metal taps offer superior toughness and lubricity and are made of premium-grade, super hard powder high speed steel. These taps have a special geometry for tougher applications.

cutting conditions				
Materials				Cutting Speed (FPM)
Main Group	Sub-Group	Condition	Hardness (HRC)	
Stainless Steel	17-4PH, 15-5 17-7PH, AM350	hardened	<48	12-20
Tool steels	01, A-2, D-2 H-13, P-20	Hardened	<48	10-20
High strength	4140, 4340 50100	Hardened	<48	15-20
Nickel alloys	Inconel, Hastaloy, Waspaloy, Rene, Monel	Annealed and Hardened	<42	5-20
Titanium	6 AL 4	Annealed/hardened	<42	8-15



INCH • 4.5 PITCH LEAD (INTERMEDIATE)



INCH • 4.5 PITCH LEAD (INTERMEDIATE)

P-HSS SPIRAL POINT TAPS INCH							
Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NC							
4	40	2	H2	1-7/8	.433	124-100	14.21
5	40	3	H2	1-15/16	.433	124-105	10.71
6	32	3	H3	2	.512	124-110	11.69
8	32	3	H3	2-1/8	.512	124-115	11.69
10	24	3	H3	2-3/8	.512	124-120	12.39
1/4	20	3	H3	2-1/2	.630	124-130	13.44
5/16	18	3	H3	2-23/32	.748	124-140	15.96
3/8	16	3	H3	2-15/16	.748	124-150	21.28
7/16	14	3	H3	3-5/32	.866	124-160	25.20
1/2	13	3	H3	3-3/8	.945	124-170	29.40
5/8	11	3	H3	3-13/16	1.102	124-180	60.27
3/4	10	4	H3	4-1/4	1.220	124-190	95.69
NF							
10	32	3	H3	2-3/8	.512	124-125	12.39
1/4	28	3	H3	2-1/2	.630	124-135	13.44
5/16	24	3	H3	2-23/32	.748	124-145	15.96
3/8	24	3	H3	2-15/16	.748	124-155	21.28
7/16	20	3	H3	3-5/32	.866	124-165	25.20
1/2	20	3	H3	3-3/8	.945	124-175	29.40
5/8	18	3	H3	3-13/16	1.102	124-185	60.27
3/4	16	4	H3	4-1/4	1.220	124-195	95.69

P-HSS SPIRAL FLUTE TAPS INCH							
Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NC							
4	40	2	H2	1-7/8	.250	124-250	15.12
6	32	3	H3	2	.313	124-255	13.79
8	32	3	H3	2-1/8	.313	124-260	13.58
10	24	3	H3	2-3/8	.417	124-265	13.58
1/4	20	3	H3	2-1/2	.500	124-275	15.12
5/16	18	3	H3	2-23/32	.556	124-285	16.66
3/8	16	3	H3	2-15/16	.625	124-295	21.28
7/16	14	3	H3	3-5/32	.714	124-305	26.88
1/2	13	3	H3	3-3/8	.769	124-315	29.61
5/8	11	4	H3	3-13/16	.909	124-325	66.92
3/4	10	4	H3	4-1/4	1.000	124-335	95.69
NF							
10	32	3	H3	2-3/8	.417	124-270	13.58
1/4	28	3	H3	2-1/2	.500	124-280	15.12
5/16	24	3	H3	2-23/32	.556	124-290	16.66
3/8	24	3	H3	2-15/16	.625	124-300	21.28
7/16	20	3	H3	3-5/32	.714	124-310	26.88
1/2	20	3	H3	3-3/8	.769	124-320	29.61
5/8	18	4	H3	3-13/16	.909	124-330	66.92
3/4	16	4	H3	4-1/4	1.000	124-340	95.69

METRIC

P-HSS SPIRAL POINT METRIC SIZES						
Nominal Size and Pitch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
M3 x .5	3	D3	1-15/16	.433	124-500	11.69
M4 x .7	3	D4	2-1/8	.512	124-505	11.69
M5 x .8	3	D4	2-3/8	.512	124-510	12.39
M6 x 1.0	3	D5	2-1/2	.630	124-515	13.44
M8 x 1.25	3	D5	2-23/32	.748	124-520	15.96
M10 x 1.25	3	D5	2-15/16	.748	124-525	21.28
M10 x 1.5	3	D6	2-15/16	.748	124-530	21.28
M12 x 1.75	3	D6	3-3/8	.945	124-535	29.40

METRIC

P-HSS SPIRAL FLUTE METRIC SIZES						
Nominal Size and Pitch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
M3 x .5	3	D3	1-15/16	.197	124-550	12.95
M4 x .7	3	D4	2-1/8	.276	124-555	13.16
M5 x .8	3	D4	2-3/8	.315	124-560	13.44
M6 x 1.0	3	D5	2-1/2	.394	124-565	13.93
M8 x 1.25	3	D5	2-23/32	.492	124-570	21.42
M10 x 1.25	3	D5	2-15/16	.591	124-575	32.41
M10 x 1.5	3	D6	2-15/16	.591	124-580	32.41
M12 x 1.75	3	D6	3-3/8	.689	124-585	36.96



YELLOW RING SPIRAL POINT TAPS

Designed for high-speed tapping applications. Developed to withstand the high stress and high heat associated with high-speed CNC production tapping. Features a unique free-cutting design with a special tempering and geometry which contributes to extra tool life.



HSSE-V3% VANADIUM

- Superior performance in hardened tool steels such as 4140, 4340, H13, D2.
- Up to 35 HRC

• 4.5 PITCH LEAD (INTERMEDIATE)

■ HSSE-V3 SPIRAL POINT TAPS INCH

Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NC							
2	56	2	H2	1-3/4	.433	122-550	6.79
3	48	2	H2	1-13/16	.512	122-552	6.79
4	40	2	H2	1-7/8	.433	123-296	6.72
4	40	2	*H3	1-7/8	.433	122-554*	6.72
6	32	3	H3	2	.512	123-300	6.02
8	32	3	H3	2-1/8	.512	123-302	6.37
10	24	3	H3	2-3/8	.512	123-304	6.58
12	24	3	H3	2-3/8	.512	123-306	5.53
1/4	20	3	H3	2-1/2	.630	123-308	7.42
5/16	18	3	H3	2-23/32	.748	123-310	9.03
3/8	16	3	H3	2-15/16	.748	123-312	10.99
7/16	14	3	H3	3-5/32	.866	123-314	14.35
1/2	13	3	H3	3-3/8	.945	123-316	15.96
5/8	11	3	H3	3-13/16	1.102	123-318	25.20
3/4	10	3	H3	4-1/4	1.220	123-320	42.21
7/8	9	3	H4	4-11/16	1.339	123-321	58.87
1	8	4	H4	5-1/8	1.496	123-323	79.03
1-1/8	7	4	H4	5-7/16	1.732	123-364	112.00
1-1/4	7	4	H4	5-3/4	1.732	123-367	130.34
1-3/8	6	4	H4	6-1/16	2.000	123-371	171.43
1-1/2	6	4	H4	6-3/8	2.000	123-363	219.87

Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NF							
6	40	3	H3	2	.512	123-334	6.02
10	32	3	H3	2-3/8	.512	123-338	6.58
1/4	28	3	H3	2-1/2	.630	123-342	7.42
5/16	24	3	H3	2-23/32	.748	123-344	9.03
3/8	24	3	H3	2-15/16	.748	123-346	10.99
7/16	20	3	H3	3-5/32	.866	123-348	14.35
1/2	20	3	H3	3-3/8	.945	123-350	15.96
5/8	18	3	H3	3-13/16	1.102	123-352	25.20
3/4	16	3	H3	4-1/4	1.220	123-353	42.21
7/8	14	3	H4	4-11/16	1.339	123-359	58.87
1	12	4	H4	5-1/8	1.496	123-361	79.03
1	14	4	H4	5-1/8	1.496	123-360	79.03
1-1/8	12	4	H4	5-7/16	1.732	123-365	112.00
1-1/4	12	4	H4	5-3/4	1.732	123-369	130.34
1-3/8	12	4	H4	6-1/16	2.000	123-373	171.36
1-1/2	12	4	H4	6-3/8	2.000	123-375	219.87

*SPECIAL LIMIT

cutting conditions

Materials	Main Group	Sub-Group	Condition	Hardness (HRC)	Cutting Speed (FPM)
Tool steels	01, A-2, D-2	H-13, P-20	Annealed	<35	15-25
Medium Carbon	1030, 1035	1038, 1040	Normalized	<28	20-40
Alloyed high carbon	1065, 1070,	1080, 1090	Normalized	<32	20-30
	1095, 1561,	1572			
High strength Titanium	4140, 4340	Commercially pure	Normalized	<32	20-30
		Cast, wrought	Annealed	<32	15-30
Aluminum					30-90

■ HSSE-V3 SPIRAL POINT TAPS METRIC

Nominal Size and Pitch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
M2 x .4	2	D3	1-3/4	.433	123-502	11.27
M2.5 x .45	2	D3	1-13/16	.512	123-504	9.03
M3 x .5	3	D3	1-15/16	.433	123-505	7.63
M3.5 x .6	3	D4	2	.512	123-506	6.02
M4 x .7	3	D4	2-1/8	.512	123-507	6.37
M4.5 x .75	3	D4	2-3/8	.512	123-508	6.58
M5 x .8	3	D4	2-3/8	.512	123-509	6.58
M6 x 1	3	D5	2-1/2	.630	123-510	7.42
M7 x 1	3	D5	2-23/32	.630	123-511	9.03
M8 x 1	3	D5	2-23/32	.748	123-512	9.03
M8 x 1.25	3	D5	2-23/32	.748	123-513	9.03
M10 x 1.25	3	D5	2-15/16	.748	123-516	12.95
M10 x 1.5	3	D6	2-15/16	.748	123-515	12.95
M12 x 1.25	3	D5	3-3/8	.945	123-518	15.96
M12 x 1.75	3	D6	3-3/8	.945	123-517	15.96
M14 x 1.5	3	D7	3-19/32	.984	123-519	21.98
M14 x 2	3	D6	3-19/32	.984	123-520	21.98
M16 x 1.5	3	D6	3-13/16	1.102	123-522	25.90
M16 x 2	3	D7	3-13/16	1.102	123-521	25.90
M18 x 1.5	4	D6	4-1/32	1.102	123-523	42.21
M18 x 2.5	4	D7	4-1/32	1.102	123-524	42.21
M20 x 1.5	4	D5	4-15/32	1.220	123-525	50.54
M20 x 2.5	4	D6	4-15/32	1.220	123-526	50.54
M22 x 1.5	4	D6	4-11/16	1.339	123-527	58.87
M22 x 2.5	4	D6	4-11/16	1.339	123-528	58.87
M24 x 1.5	4	D5	4-29/32	1.339	123-529	79.03
M24 x 3	4	D7	4-29/32	1.339	123-530	79.03
M27 x 1.5	4	D7	5-1/8	1.181	123-531	112.00
M27 x 3	4	D7	5-1/8	1.181	123-532	112.00
M30 x 1.5	4	D7	5-7/16	1.378	123-533	130.34
M30 x 3.5	4	D7	5-7/16	1.378	123-534	130.34



YELLOW RING SPIRAL FLUTE TAPS

Designed for high-speed tapping applications. Developed to withstand the high stress and high heat associated with high-speed CNC production tapping. Features a unique free-cutting design with a special tempering and geometry which contributes to extra tool life.



HSSE-V3% VANADIUM

- Superior performance in hardened tool steels such as 4140, 4340, H13, D2.
- Up to 35 HRC

• 2.5 PITCH LEAD (BOTTOMING)

■ HSSE-V3 SPIRAL FLUTE TAPS INCH

Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NC							
2	56	2	H2	1-3/4	.433	122-500	10.57
3	48	2	H2	1-13/16	.512	122-502	10.57
4	40	2	H2	1-7/8	.250	123-362	8.89
4	40	2	*H3	1-7/8	.250	122-506*	8.89
6	32	3	H2	2	.313	123-366	8.89
8	32	3	H2	2-1/8	.313	123-368	8.86
10	24	3	H3	2-3/8	.417	123-370	8.86
1/4	20	3	H3	2-1/2	.500	123-372	9.38
5/16	18	3	H3	2-23/32	.556	123-374	11.27
3/8	16	3	H3	2-15/16	.625	123-376	13.62
7/16	14	3	H3	3-5/32	.714	123-378	20.34
1/2	13	3	H3	3-3/8	.769	123-380	23.35
5/8	11	4	H3	3-13/16	.909	123-452	35.28
3/4	10	4	H3	4-1/4	1.000	123-454	46.06
7/8	9	4	H4	4-11/16	1.111	123-466	65.66
1	8	4	H4	5-1/8	1.250	123-469	88.62
1-1/8	7	4	H4	5-7/16	1.429	123-471	132.93
1-1/4	7	4	H4	5-3/4	1.429	123-473	142.66
1-3/8	6	4	H4	6-1/16	1.667	123-475	191.31
1-1/2	6	4	H4	6-3/8	1.667	123-477	219.87

Tap	Threads Per Inch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
NF							
10	32	3	H3	2-3/8	.417	123-382	8.86
1/4	28	3	H3	2-1/2	.500	123-384	9.38
5/16	24	3	H3	2-23/32	.556	123-386	11.27
3/8	24	3	H3	2-15/16	.625	123-388	13.62
7/16	20	3	H3	3-5/32	.714	123-389	22.40
1/2	20	3	H3	3-3/8	.769	123-392	23.35
5/8	18	4	H3	3-13/16	.909	123-462	35.28
3/4	16	4	H3	4-1/4	1.000	123-464	46.06
7/8	14	4	H4	4-11/16	1.111	123-468	65.66
1	12	4	H4	5-1/8	1.250	123-470	88.62
1	14	4	H4	5-1/8	1.250	123-465	96.18
1-1/8	12	4	H4	5-7/16	1.429	123-472	132.93
1-1/4	12	4	H4	5-3/4	1.429	123-474	142.66
1-3/8	12	4	H4	6-1/16	1.667	123-476	191.31
1-1/2	12	4	H4	6-3/8	1.667	123-478	219.87

*SPECIAL LIMIT

cutting conditions

Materials	Main Group	Sub-Group	Condition	Hardness (HRC)	Cutting Speed (FPM)
Tool steels		01, A-2, D-2 H-13, P-20	Annealed	<35	15-25
Medium Carbon		1030, 1035 1038, 1040 1045, 1050	Normalized	<28	20-40
Alloyed high carbon		1065, 1070, 1080, 1090 1095, 1561, 1572	Normalized	<32	20-30
High strength Titanium		4140, 4340 Commercially pure	Normalized Annealed	<32 <32	20-30 15-30
Aluminum		Cast, wrought	-	-	30-90

■ HSSE-V3 SPIRAL FLUTE TAPS METRIC

Nominal Size and Pitch	No. Flutes	Thread Limits	O/A Length (in)	Thread Length (in)	Code No.	SPECIAL Price \$
M3 x .5	3	D3	2-3/8	.197	123-650	12.74
M3.5 x .6	3	D4	2-3/8	.236	123-651	12.74
M4 x .7	3	D4	2-3/8	.276	123-652	12.74
M5 x .8	3	D4	2-3/8	.315	123-654	12.74
M6 x 1	3	D5	2-1/2	.394	123-656	12.74
M7 x 1	3	D5	2-23/32	.394	123-657	15.68
M8 x 1	3	D5	2-23/32	.492	123-659	15.68
M8 x 1.25	3	D5	2-23/32	.492	123-658	15.68
M10 x 1.25	3	D5	2-15/16	.591	123-661	23.42
M10 x 1.5	3	D6	2-15/16	.591	123-660	23.42
M12 x 1.25	3	D5	3-3/8	.689	123-663	25.59
M12 x 1.75	3	D6	3-3/8	.689	123-662	25.59
M14 x 1.5	3	D6	3-19/32	.787	123-665	34.34
M14 x 2	3	D7	3-19/32	.787	123-667	34.34
M16 x 1.5	3	D6	3-13/16	.787	123-668	40.95
M16 x 2	3	D7	3-13/16	.787	123-669	40.95
M18 x 1.5	4	D6	4-1/32	.984	123-670	59.26
M18 x 2.5	4	D7	4-1/32	.984	123-671	59.26
M20 x 1.5	4	D5	4-15/32	.984	123-672	82.25
M20 x 2.5	4	D6	4-15/32	.984	123-673	82.25
M22 x 1.5	4	D6	4-11/16	.984	123-674	88.90
M22 x 2.5	4	D6	4-11/16	.984	123-675	88.90
M24 x 1.5	4	D5	4-29/32	1.181	123-676	95.55
M24 x 3	4	D7	4-29/32	1.181	123-677	95.55
M27 x 1.5	4	D7	5-1/8	1.181	123-678	155.12
M27 x 3	4	D7	5-1/8	1.181	123-679	155.12
M30 x 1.5	4	D7	5-7/16	1.378	123-680	166.46
M30 x 3.5	4	D7	5-7/16	1.378	123-681	166.46

- European Engineering and Design
- Supplied with nationally traceable calibration certificates
- 12 + 12 Care Warranty Program

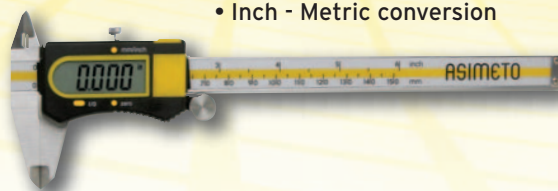
features:

- Hardened stainless steel



features:

- Extras large LCD readout
- Measurement hold button
- Inch - Metric conversion



DIAL CALIPERS

Range	Resolution	Range Per / Rev	Accuracy	Code No.	Price \$
0-6"	.001"	.100"	±.001"	286-834	79.00
0-8"	.001"	.100"	±.002"	286-838	106.00
0-12"	.001"	.100"	±.002"	286-842	182.00

DIGIMATIC CALIPERS

SPC OUTPUT

Range	Resolution	Accuracy	Code No.	Price \$
0-6" / 0-150mm	.0005" / 0.01mm	±.001"	286-500	92.00
0-8" / 0-200mm	.0005" / 0.01mm	±.001"	286-502	130.00
0-12" / 0-300mm	.0005" / 0.01mm	±.0015"	286-504	218.00



features:

- On/Off Sensor
- Ratchet Stop
- Extra large LCD readout
- Measurement hold button
- Carbide Faces
- Inch - Metric conversion



OUTSIDE MICROMETER SETS

Range	Graduation	Code No.	Price \$
0-3" (3 pc set)	.0001"	285-150	134.00
0-6" (6 pc set)	.0001"	285-154	291.00
0-6" (6 pc set)	.001"	285-254	284.00

DIGIMATIC OUTSIDE MICROMETERS RATCHET STOP

Range	Resolution	Accuracy	Code No.	Price \$
0-1" / 0-25mm	.00005" / 0.001mm	±.00005"	285-002	115.00

features:

- On/Off Sensor
- SPC Output
- Ratchet Stop
- Extra large LCD readout
- Measurement hold button
- Carbide Faces
- Inch - Metric conversion



features:

- Dial face dia. 2.20"
- Lug Back
- Easy to read dial face



DIGIMATIC OUTSIDE MICROMETER SETS RATCHET STOP

Range	Resolution	Code No.	Price \$
0-3" / 0-75mm (3 pc set)	.00005" / 0.001mm	285-080	569.00
0-4" / 0-100mm (4 pc set)	.00005" / 0.001mm	285-082	807.00

DIAL INDICATOR SERIES 2

Range	Grad.	Dial Reading	Range Per Rev.	Stem Dia.	Code No.	Price \$
0-.5"	.001"	0-100	.1"	3/8	286-718	32.00
0-1"	.001"	0-100	.1"	3/8	286-722	34.00

features:

- Jeweled bearings
- Inch units come with 5/32 & 3/8 dovetail stems
- Metric unit comes with 6mm & 8mm dovetail stems
- Easy to read yellow face



DIAL TEST INDICATORS

Resolution	Range	Dial Reading	Accuracy	Type	Code No.	Price \$
Inch						
.0001"	.008"	0-4-0	±.0001"	Horizontal	287-150	95.00
.0001"	.008"	0-4-0	±.0001"	Vertical	287-152	106.00
.0005"	.03"	0-15-0	±.0005"	Horizontal	287-154	71.00
.0005"	.03"	0-15-0	±.0005"	Vertical	287-156	82.00
.0005"	.03"	0-15-0	±.0005"	Horizontal / Long point	287-158	91.00
Metric						
0.002mm	0.2mm	0-100-0	±0.003mm	Horizontal	287-160	94.00
0.01mm	0.5mm	0-25-0	±0.01mm	Horizontal	287-166	92.00
0.01mm	0.8mm	0-40-0	±0.008mm	Horizontal	287-168	75.00
0.01mm	1.0mm	0-50-0	±0.01mm	Horizontal	287-170	85.00

DIGIMATIC HEIGHT GAGES

SPC OUTPUT

Range	Resolution	Accuracy	Code No.	Price \$
Inch				
0-12"/0-300mm	.0005"/0.01mm	±.001"	287-131	383.00
0-24"/0-600mm	.0005"/0.01mm	±.003"	287-132	645.00
		SPC Cable	287-140	81.00



features:

- Individual serial numbers on each block, regardless of grade
- A complete certificate of calibration traceable to the N.I.S.T showing the deviation of each block.
- All sets are supplied in deluxe fitted wooded case
- Mirror polished surfaces provide superior wringing characteristics.



RECTANGULAR GAGE BLOCK SETS

Blocks Per Set	Blocks Included	Grade	Code No.	Price \$
81	1 Block: 0.050"	0 (2)	287-220	887.00
	10 Blocks: 0.1000"-0.1009" x 0.0001" steps	AS-1 (3)	287-222	557.00
	49 Blocks: 0.101"-0.149" x 0.001" steps	AS-2 (B)	287-224	253.00
36	17 Blocks: 0.150"-0.950" x 0.050" steps			
	4 Blocks: 1.000"-4.000" x 1.000" steps			
	1 Block: 0.050"	0 (2)	287-226	507.00
	10 Blocks: 0.1000"-0.1009" x 0.0001 steps	AS-1 (3)	287-228	261.00
	9 Blocks: 0.101"-0.109" x 0.001" steps	AS-2 (B)	287-230	158.00
	9 Blocks: 0.110"-0.190" x 0.010" steps			
	4 Blocks: 0.200"-0.500" x 0.100" steps			
	3 Blocks: 1,2,4"			

() - former grade

Note: Individual sizes are also available

GS MACHINE VISES

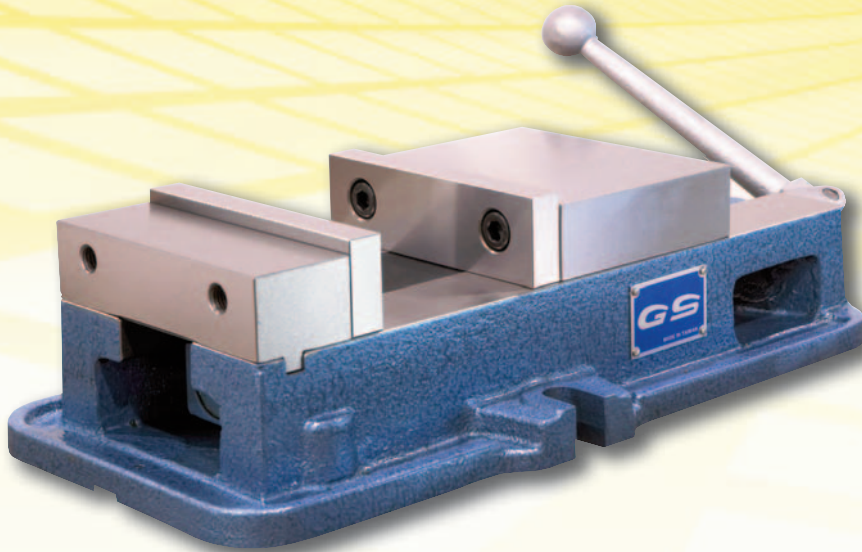
6" Wide x 7.5" Opening: \$313.95 - Code # 327-275

6" Wide x 8.9" Opening: \$355.95 - Code # 327-290

8" Wide x 10" Opening: \$875.00 - Code # 327-300



**10 year
warranty**



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