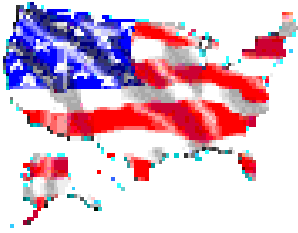




HI VELOCITY

"HV" SERIES VARIABLE OFFSET MILL



NEW
STYLES
AND
SIZES

Performance Matters

SQUARE END

HV140 SERIES

STANDARD LENGTH AND EXTENDED REACH
4 FLUTE
SQUARE END

EDP #	DIA	SHANK	LOC	OAL	EXT. REACH	RADIUS
HV 140-1250	1/8	1/8	1/2	1 1/2	-	NO
HV 140-1252	1/8	1/8	1/2	2	-	NO
HV 140-1253	1/8	1/8	1/2	3	-	NO
HV 140-1875	3/16	3/16	5/8	2	-	NO
HV 140-1876	3/16	3/16	5/8	3	-	NO
HV 140-1877	3/16	1/4	1/4	4	2" x 1-3/4"	NO
HV 140-2500	1/4	1/4	3/4	2 1/2	-	NO
HV 140-2501	1/4	1/4	3/4	4	2-1/2"	NO
HV 140-2502	1/4	3/8	3/8	6	2" x 2-1/2"	NO
HV 140-3125	5/16	5/16	13/16	2 1/2	-	NO
HV 140-3126	5/16	5/16	13/16	4	2-1/2"	NO
HV 140-3750	3/8	3/8	1	2 1/2	-	NO
HV 140-3751	3/8	3/8	1	4	2-1/2"	NO
HV 140-3752	3/8	3/8	1	6	4"	NO
HV 140-4375	7/16	7/16	1	2 3/4	-	NO
HV 140-5000	1/2	1/2	1	3	-	NO
HV 140-5001	1/2	1/2	1	4	2-1/2"	NO
HV 140-5002	1/2	1/2	1	6	4"	NO
HV 140-6250	5/8	5/8	1-1/4	3 1/2	-	NO
HV 140-6251	5/8	5/8	1-1/4	6	4"	NO
HV 140-7500	3/4	3/4	1-1/2	4	-	NO
HV 140-7501	3/4	3/4	1-1/2	5	3"	NO
HV 140-7502	3/4	3/4	1-1/2	6	4"	NO
HV 140-1000	1	1	1-1/2	4	-	NO
HV 140-1001	1	1	1-1/2	5	3"	NO
HV 140-1002	1	1	1-1/2	6	4"	NO

"OFFSET" YOUR METAL REMOVAL

- INCREASE FEED RATES UP TO 10 TIMES OVER CONVENTIONAL TOOLING
- VIBRATION FREE MACHINING
- BETTER TOOL PERFORMANCE AT FASTER RPM
- LESS TOOL WEAR AT HIGH SPEEDS IN ALLOYS & STEELS
- IMPROVED SURFACE FINISHES
- ELIMINATE MULTIPLE TOOLING
- ALTiN COATED
- ROUGH AND FINISH

HV240 SERIES

STUB LENGTH
4 FLUTE
SQUARE END

EDP #	DIA	SHANK	LOC	OAL	RADIUS
HV 240-1250	1/8	1/8	3/16	1 1/2	NO
HV 240-1875	3/16	3/16	3/8	2	NO
HV 240-2500	1/4	1/4	1/2	2	NO
HV 240-3125	5/16	5/16	1/2	2	NO
HV 240-3750	3/8	3/8	5/8	2	NO
HV 240-4375	7/16	7/16	5/8	2 1/2	NO
HV 240-5000	1/2	1/2	5/8	2 1/2	NO
HV 240-6250	5/8	5/8	3/4	3	NO
HV 240-7500	3/4	3/4	1	3	NO

**NEW
EXTENDED REACH SIZES
NOW AVAILABLE**

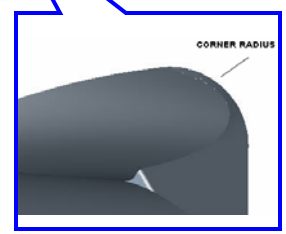
**ALTiN
COATED**

CGS



CORNER RADIUS

**ALTiN
COATED**



HV143 SERIES

STANDARD LENGTH AND EXTENDED REACH
4 FLUTE
CORNER RADIUS END

EDP #	DIA	SHANK	LOC	OAL	EXT. REACH	RADIUS
HV 143-1250	1/8	1/8	1/2	1 1/2	-	.010 - .015
HV 143-1252	1/8	1/8	1/2	2	-	.010 - .015
HV 143-1253	1/8	1/8	1/2	3	-	.010 - .015
HV 143-1875	3/16	3/16	5/8	2	-	.015 - .020
HV 143-1876	3/16	3/16	5/8	3	-	.015 - .020
HV 143-1877	3/16	1/4	1/4	4	2* x 1-3/4"	.015 - .020
HV 143-2500	1/4	1/4	3/4	2 1/2	-	.015 - .020
HV 143-2501	1/4	1/4	3/4	4	2-1/2"	.015 - .020
HV 143-2502	1/4	3/8	3/8	6	2* x 2-1/2"	.015 - .020
HV 143-3125	5/16	5/16	13/16	2 1/2	-	.015 - .020
HV 143-3126	5/16	5/16	13/16	4	2-1/2"	.015 - .020
HV 143-3750	3/8	3/8	1	2 1/2	-	.015 - .020
HV 143-3751	3/8	3/8	1	4	2-1/2"	.015 - .020
HV 143-3752	3/8	3/8	1	6	4"	.015 - .020
HV 143-4375	7/16	7/16	1	2 3/4	-	.015 - .020
HV 143-5000	1/2	1/2	1	3	-	.025 - .030
HV 143-5001	1/2	1/2	1	4	2-1/2"	.025 - .030
HV 143-5002	1/2	1/2	1	6	4"	.025 - .030
HV 143-6250	5/8	5/8	1-1/4	3 1/2	-	.030 - .035
HV 143-6251	5/8	5/8	1-1/4	6	4"	.030 - .035
HV 143-7500	3/4	3/4	1-1/2	4	-	.035 - .040
HV 143-7501	3/4	3/4	1-1/2	5	3"	.035 - .040
HV 143-7502	3/4	3/4	1-1/2	6	4"	.035 - .040
HV 143-1000	1	1	1-1/2	4	-	.035 - .040
HV 143-1001	1	1	1-1/2	5	3"	.035 - .040
HV 143-1002	1	1	1-1/2	6	4"	.035 - .040

METRIC SIZES

HVM143 SERIES

"METRIC" STANDARD LENGTH
4 FLUTE
CORNER RADIUS END

EDP #	DIA	SHANK	LOC	OAL	RADIUS
HVM143-030	3	3	12	38	.25
HVM143-040	4	4	14	50	.25
HVM143-050	5	5	16	50	.25
HVM143-060	6	6	20	63	.38
HVM143-080	8	8	20	63	.38
HVM143-100	10	10	25	75	.51
HVM143-120	12	12	25	75	.51
HVM143-160	16	16	32	88	.63
HVM143-200	20	20	38	100	.89
HVM143-250	25	25	38	100	.89

STUB LENGTH

HV243 SERIES

STUB LENGTH
4 FLUTE
CORNER RADIUS END

EDP #	DIA	SHANK	LOC	OAL	RADIUS
HV 243-1250	1/8	1/8	3/16	1 1/2	.010 - .015
HV 243-1875	3/16	3/16	3/8	2	.015 - .020
HV 243-2500	1/4	1/4	1/2	2	.015 - .020
HV 243-3125	5/16	5/16	1/2	2	.015 - .020
HV 243-3750	3/8	3/8	5/8	2	.015 - .020
HV 243-4375	7/16	7/16	5/8	2 1/2	.015 - .020
HV 243-5000	1/2	1/2	5/8	2 1/2	.025 - .030
HV 243-6250	5/8	5/8	3/4	3	.030 - .035
HV 243-7500	3/4	3/4	1	3	.035 - .040

**NEW
EXTENDED REACH SIZES
NOW AVAILABLE**



BALLNOSE END

**ALTiN
COATED**

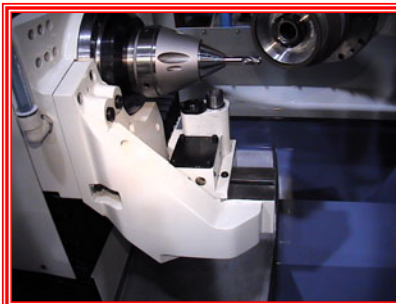
HV142 SERIES

STANDARD LENGTH AND EXTENDED REACH 4 FLUTE BALL END

EDP #	DIA	SHANK	LOC	OAL	EXT. REACH	RADIUS
HV 142-1250	1/8	1/8	1/2	1 1/2	-	BALL
HV 142-1252	1/8	1/8	1/2	2	-	BALL
HV 142-1253	1/8	1/8	1/2	3	-	BALL
HV 142-1875	3/16	3/16	5/8	2	-	BALL
HV 142-1876	3/16	3/16	5/8	3	-	BALL
HV 142-1877	3/16	1/4	1/4	4	2* x 1-3/4"	BALL
HV 142-2500	1/4	1/4	3/4	2 1/2	-	BALL
HV 142-2501	1/4	1/4	3/4	4	2-1/2"	BALL
HV 142-2502	1/4	3/8	3/8	6	2* x 2-1/2"	BALL
HV 142-3125	5/16	5/16	13/16	2 1/2	-	BALL
HV 142-3126	5/16	5/16	13/16	4	2-1/2"	BALL
HV 142-3750	3/8	3/8	1	2 1/2	-	BALL
HV 142-3751	3/8	3/8	1	4	2-1/2"	BALL
HV 142-3752	3/8	3/8	1	6	4"	BALL
HV 142-4375	7/16	7/16	1	2 3/4	-	BALL
HV 142-5000	1/2	1/2	1	3	-	BALL
HV 142-5001	1/2	1/2	1	4	2-1/2"	BALL
HV 142-5002	1/2	1/2	1	6	4"	BALL
HV 142-6250	5/8	5/8	1-1/4	3 1/2	-	BALL
HV 142-6251	5/8	5/8	1-1/4	6	4"	BALL
HV 142-7500	3/4	3/4	1-1/2	4	-	BALL
HV 142-7501	3/4	3/4	1-1/2	5	3"	BALL
HV 142-7502	3/4	3/4	1-1/2	6	4"	BALL
HV 142-1000	1	1	1-1/2	4	-	BALL
HV 142-1001	1	1	1-1/2	5	3"	BALL
HV 142-1002	1	1	1-1/2	6	4"	BALL

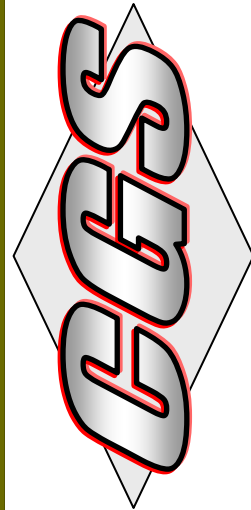


**NEW
EXTENDED REACH SIZES
NOW AVAILABLE**



- Speed and feed recommendations are for *profile milling (side cut)* operations up to 20 % of the cutter diameter.
- Decrease values by 20% for *slotting operations*.
- Rates based on *HIGH* values are for optimum working conditions.

WORK MATERIAL	CUTTING SPEEDS		1/8"		3/16"		1/4"		5/16"		3/8"		1/2"		5/8"		3/4"		1"	
	SFM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM		RPM - IPM	
Titanium Alloys	HIGH	250	7640 - 15.3	5093 - 10.2	3820 - 9.2	3056 - 11.0	2547 - 11.2	1910 - 10.7	1528 - 9.2	1273 - 11.2	955 - 9.9									
	LOW	212	6479 - 13.0	4319 - 8.6	3239 - 7.7	2591 - 9.3	2160 - 9.5	1620 - 9.0	1296 - 7.7	1080 - 9.5	810 - 8.4									
<i>IPT</i>			0.0005	0.0005	0.0006	0.0009	0.0011	0.0014	0.0015	0.0022	0.0026									
High Temp. Alloys	HIGH	125	3820 - 6.1	2547 - 4.1	1910 - 5.4	1528 - 6.8	1273 - 5.6	955 - 6.5	764 - 5.8	637 - 6.1	478 - 4.6									
	LOW	106	3239 - 5.2	2160 - 3.4	1620 - 4.5	1296 - 5.7	1080 - 4.7	810 - 5.5	648 - 4.9	540 - 5.2	405 - 3.9									
<i>IPT</i>			0.0004	0.0004	0.0007	0.0011	0.0011	0.0017	0.0019	0.0024	0.0024									
Alloy Steels	HIGH	575	17572 - 42.2	11715 - 46.8	8786 - 56.2	7029 - 56.2	5857 - 68.5	4393 - 54.5	3514 - 49.2	2929 - 43.3	2197 - 35.15									
	LOW	450	13752 - 33.0	9168 - 36.7	6876 - 44.0	5501 - 44.0	4584 - 45.8	3438 - 42.6	2750 - 38.5	2292 - 33.9	1719 - 27.5									
<i>IPT</i>			0.0006	0.001	0.0016	0.002	0.0025	0.0031	0.0035	0.0037	0.004									
4140-4340	HIGH	387	11827 - 28.4	7884 - 31.5	5913 - 37.8	4731 - 37.8	3942 - 39.4	2957 - 36.7	2365 - 33.1	1971 - 29.2	1478 - 23.6									
	LOW	325	9932 - 23.8	6621 - 26.5	4966 - 31.8	3937 - 31.8	3311 - 33.1	2483 - 30.8	1986 - 27.8	1655 - 24.5	1242 - 19.9									
<i>IPT</i>			0.0006	0.001	0.0016	0.002	0.0025	0.0031	0.0035	0.0037	0.004									
Grey Cast Iron	HIGH	700	21392 - 68.5	14242 - 45.8	10696 - 34.2	8557 - 41.1	7131 - 34.2	5348 - 38.5	4278 - 34.2	3565 - 34.2	2674 - 30.0									
	LOW	575	17572 - 56.2	11715 - 37.5	8786 - 28.1	7029 - 33.7	5857 - 28.1	4393 - 31.6	3514 - 28.1	2929 - 28.1	2197 - 24.6									
<i>IPT</i>			0.0008	0.0008	0.0008	0.0012	0.0012	0.0018	0.002	0.0024	0.0028									
Tool Steels	HIGH	575	17572 - 35.1	11715 - 32.8	8786 - 49.2	7029 - 53.4	5857 - 46.9	4393 - 46.9	3514 - 43.6	2929 - 37.5	2197 - 30.8									
	LOW	450	13752 - 27.5	9168 - 25.7	6876 - 38.5	5501 - 41.8	4584 - 36.7	3438 - 34.4	2750 - 34.1	2292 - 29.3	1719 - 24.1									
<i>IPT</i>			0.0005	0.0007	0.0014	0.0019	0.002	0.0025	0.0031	0.0032	0.0035									
Above 36Rc	HIGH	262	8007 - 16	5338 - 15.0	4003 - 22.4	3203 - 24.3	2669 - 21.4	2002 - 20.0	1601 - 19.9	1334 - 17.1	1001 - 14.0									
	LOW	211	6448 - 12.9	4299 - 12.0	3224 - 18.0	2579 - 19.6	2149 - 17.2	1612 - 16.1	1290 - 16.0	1075 - 13.8	806 - 11.3									
<i>IPT</i>			0.0005	0.0007	0.0014	0.0019	0.002	0.0025	0.0031	0.0032	0.0035									
Stainless Steels	HIGH	362	11063 - 17.7	7375 - 11.8	5531 - 13.3	4425 - 17.7	3688 - 14.8	2766 - 17.7	2213 - 15.9	1844 - 16.2	1383 - 12.2									
	LOW	325	9932 - 15.9	6621 - 10.6	4966 - 11.9	3973 - 15.9	3311 - 13.2	2483 - 15.9	1986 - 14.3	1655 - 14.6	1242 - 10.9									
<i>IPT</i>			0.0004	0.0004	0.0006	0.001	0.001	0.0016	0.0018	0.0022	0.0022									
Mild to Machine	HIGH	375	11460 - 22.9	7640 - 15.3	5730 - 16.0	4584 - 20.2	3820 - 16.8	2865 - 19.5	2292 - 17.4	1910 - 17.6	1433 - 13.2									
	LOW	337	10299 - 20.6	6866 - 13.7	5149 - 14.4	4119 - 18.1	3433 - 15.1	2575 - 17.5	2060 - 15.7	1716 - 15.8	1287 - 11.8									
<i>IPT</i>			0.0005	0.0005	0.0007	0.0011	0.0011	0.0017	0.0019	0.0023	0.0023									
Easy to Machine	HIGH	487	14883 - 35.7	9922 - 23.8	7441 - 23.8	5953 - 28.6	4961 - 23.8	3721 - 26.8	2977 - 23.8	2480 - 23.8	1860 - 17.9									
	LOW	387	11827 - 28.4	7884 - 18.9	5913 - 18.9	4731 - 22.7	3942 - 18.9	2957 - 21.3	2365 - 18.9	1971 - 18.9	1478 - 14.2									
<i>IPT</i>			0.0006	0.0006	0.0008	0.0012	0.0012	0.0018	0.002	0.0024	0.0024									
Soft Steels	HIGH	762	23287 - 55.9	15524 - 49.7	11643 - 37.3	9315 - 44.7	7762 - 37.3	5822 - 41.9	4657 - 37.3	3881 - 37.3	2911 - 32.6									
	LOW	637	19467 - 46.7	12978 - 41.5	9733 - 31.2	7787 - 37.4	6489 - 31.2	4867 - 35.0	3893 - 31.1	3244 - 31.1	2433 - 27.3									
<i>IPT</i>			0.0006	0.0008	0.0008	0.0012	0.0012	0.0018	0.002	0.0024	0.0028									
Die Steels	HIGH	387	11827 - 28.4	7884 - 31.5	5913 - 37.8	4731 - 37.8	3942 - 39.4	2957 - 36.7	2365 - 33.1	1971 - 29.2	1478 - 23.6									
	LOW	325	9932 - 23.8	6621 - 26.5	4966 - 31.8	3937 - 31.8	3311 - 33.1	2483 - 30.8	1986 - 27.8	1655 - 24.5	1242 - 19.9									
<i>IPT</i>			0.0006	0.001	0.0016	0.002	0.0025	0.0031	0.0035	0.0037	0.004									



HI VELOCITY

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