

5 AXIS CORNER RADIUS AND BALL CARBIDE END MILLS
HX-55 COATING/CUTTER DESIGN PROVIDE:

- MAXIMUM RIGIDITY
- MAXIMUM LUBIRICITY REDEDUCES FRICTION
- MAXIMIZES CUTTER LIFE

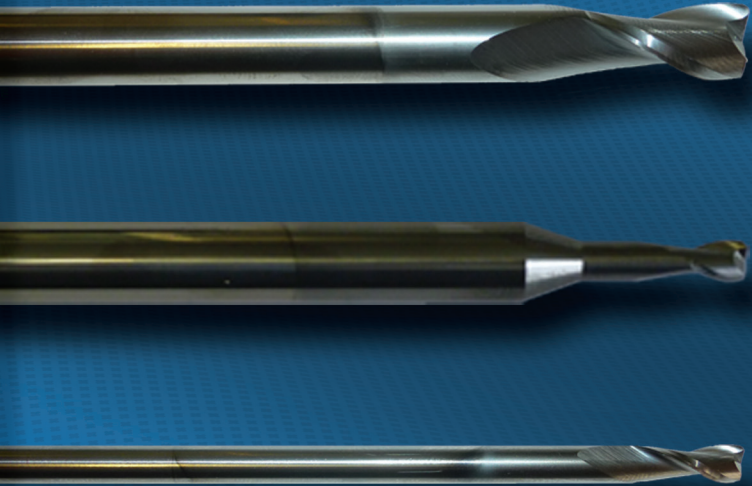
HX55 END MILLS

SOLID CARBIDE TWO FLUTE BULL-NOSE

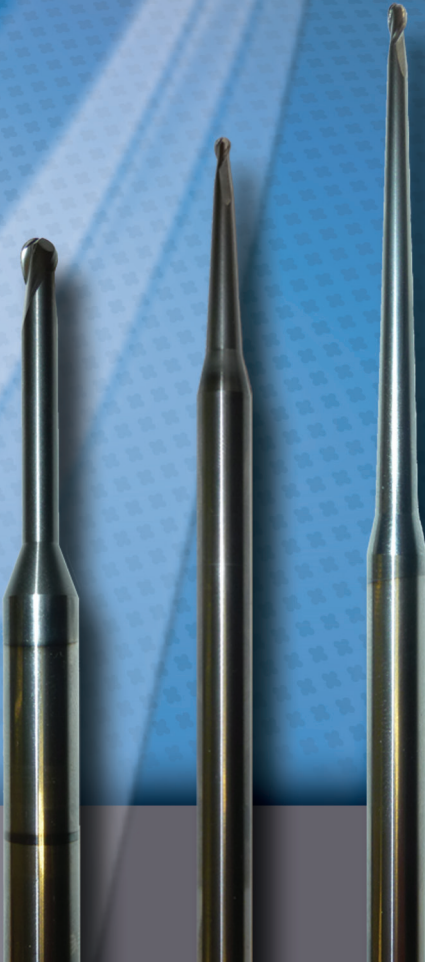
End Mill Type	Catalog Number	Effective Cutting Diameter	Flute Length	Reach from Tip	Corner Radius	Shank Diameter	Overall Length	List Price
Straight Relief Bull-Nose Radius: R01=.010" R1=.015" R2=.031"	XFR-062-R300-HX55 R01	.062	.080	.300	.010"	1/4	3.00	55.00
	XFR-080-R300-HX55 R01	.080	.080	.300		1/4	3.00	55.00
	XFR-080-R750-HX55 R01	.080	.080	.750		1/4	3.00	60.00
	XFR-080-R100-HX55 R01	.080	.080	1.000		1/4	3.00	64.00
	XFR-100-R750-HX55 R01	.100	.120	.750		1/4	3.00	60.00
	XFR-125-R375 HX55 R1	.125	.125	.375	.015"	1/4	3.00	60.00
	XFR-125-R750-HX55 R1	.125	.125	.750		1/4	3.00	60.00
	XFR-125-R100-HX55 R1	.125	.125	1.000		1/4	3.00	64.00
	XFR-187-R750-HX55 R1	.187	.300	.750		3/8	4.00	67.00
	XFR-187-R750-HX55 R2	.187	.300	.750	.031"	3/8	4.00	67.00
	XFR-187-R100-HX55 R2	.187	.300	1.000		3/8	4.00	70.00
	XFR-250-R1.50-HX55 R1	.250	.300	1.500	.015"	3/8	4.00	70.00
	XFR-250-R1.50-HX55 R2	.250	.300	1.500	.031"	3/8	4.00	70.00
SEMI/ROUGH	XFFR-375-TRS-500-HX55R2	.375	.750	3° Taper		1/2	4.00	100.00

SOLID CARBIDE TWO FLUTE BALL-NOSE

Straight Relief Ball-Nose	XFB-062-R300-HX55	.062	.080	.300	BALL NOSE	1/4	3.00	55.00
	XFB-080-R300-HX55	.080	.080	.300		1/4	3.00	55.00
	XFB-080-R750-HX55	.080	.080	.750		1/4	3.00	60.00
	XFB-080-R100-HX55	.080	.080	1.000		1/4	3.00	64.00
	XFB-100-R750-HX55	.100	.120	.750		1/4	3.00	60.00
	XFB-125-R750-HX55	.125	.125	.750		1/4	3.00	60.00
	XFB-125-R100-HX55	.125	.125	1.000		1/4	3.00	64.00
	XFB-187-R750-HX55	.187	.300	.750		3/8	4.00	67.00
	XFB-187-R100-HX55	.187	.300	1.000		3/8	4.00	70.00
	XFB-250-R750-HX55	.250	.300	.750		3/8	4.00	70.00
	XFB-250-R1.50-HX55	.250	.300	1.500		3/8	4.00	70.00
SEMI/ROUGH	XFFB-375-TRS-500 HX55	.375	.750	3°		1/2	4.00	100.00



THE LEADING
EDGE



Two Flute Ball and Bull-Nose Solid Carbide End Mills HX-55 Coated
for High Performance Machining of Dies and Molds up to 55 HRC

Two-Flute Ball End Mills INCH Diameters:

End Mill Type	Catalog Number	Effective Cutting Diameter	Flute Length	Degree of Taper Per Side	Length of Relief From Tip	Overall Length	Shank Diameter	List Price
Two-Flute Ball-Nose Without Relief	XFB-125 HX55	1/8	3/16	NONE	NONE	3.00	1/8	26.00
	XFB-187 HX55	3/16	9/32	NONE	NONE	3.00	3/16	29.00
	XFB-250 HX55	1/4	3/8	NONE	NONE	4.00	1/4	39.00
	XFB-375 HX55	3/8	5/8	NONE	NONE	5.00	3/8	69.00
	XFB-500 HX55	1/2	3/4	NONE	NONE	5.00	1/2	110.00
Two-Flute Ball-Nose With Tapered Relief	XFB-040-T4-S187 HX55	.040	.060	4°	.927	3.00	3/16	38.00
	XFB-062-T2-S125 HX55	1/16	3/32	2°	1.12	3.00	1/8	36.00
	XFB-062-T3-S250 HX55	1/16	3/32	3°	1.19	4.00	1/4	55.00
	XFB-080-T3-S187 HX55	.080	.120	3°	1.07	3.00	3/16	40.00
	XFB-093-T3-S250 HX55	.093	.100	3°	1.75	4.00	1/4	55.00
	XFB-100-T3-S187 HX55	.100	.150	3°	1.02	3.00	3/16	39.00
	XFB-125-T3-S250 HX55	1/8	3/16	3°	1.40	4.00	1/4	55.00
	XFB-250-T3-S375-4 HX55	1/4	3/8	3°	1.14	4.00	3/8	62.00
	XFB-250-T3-S375-6 HX55	1/4	3/8	3°	1.53	6.00	3/8	99.00
	XFB-125-T8-S375 HX55	1/8	3/16	8°	1.03	4.00	3/8	65.00
	XFB-187-T8-S375 HX55	3/16	9/32	8°	.935	6.00	3/8	70.00
Two-Flute Bull-Nose End Mills:								
Bull-Nose Without Relief Radius: R1 = 1/64" R2 = 1/32" R005 = .005"	XFR-125-HX55 R1	1/8	3/16	NONE	NONE	3.00	1/8	36.00
	XFR-187-HX55 R1	3/16	9/32	NONE	NONE	3.00	3/16	36.00
	XFR-250-HX55 R1	1/4	3/8	NONE	NONE	4.00	1/4	45.00
	XFR-250-HX55 R2	1/4	3/8	NONE	NONE	4.00	1/4	45.00
	XFR-375-HX55 R2	3/8	5/8	NONE	NONE	5.00	3/8	75.00
	XFR-500-HX55 R2	1/2	3/4	NONE	NONE	5.00	1/2	109.00
Straight-Relief	XFR-062-R.6-S125 HX55 R005	1/16	3/32	Straight	.600	3.00	1/8	32.00
	XFR-125-R1.5-S375 HX55 R1	1/8	3/16	Straight	1.50	3.00	3/8	69.00
Bull-Nose With Tapered Relief Radius: R1 = 1/64" R2 = 1/32" R005 = .005"	XFR-040-T3-S125 HX55 R005	1/16	.060	3°	.925	3.00	1/8	34.00
	XFR-062-T3-S250 HX55 R1	1/16	3/32	3°	1.97	4.00	1/4	49.00
	XFR-080-T3-S125 HX55 R1	.080	.120	3°	.767	3.00	1/8	36.00
	XFR-080-T3-S187 HX55 R1	.080	.120	3°	1.22	3.00	3/16	38.00
	XFR-100-T3-S187 HX55 R1	.100	.150	3°	1.07	3.00	3/16	38.00
	XFR-125-T3-S250 HX55 R1	1/8	3/16	3°	1.39	4.00	1/4	49.00
	XFR-125-T3-S250 HX55 R2	1/8	3/16	3°	1.39	4.00	1/4	49.00
	XFR-187-T3-S250 HX55 R2	3/16	9/32	3°	2.12	4.00	1/4	49.00
	XFR-187-T3-S250 HX55 R2	3/16	9/32	3°	2.12	4.00	1/4	49.00
	XFR-250-T3-S375 HX55 R1	1/4	3/8	3°	1.53	4.00	3/8	68.00
	XFR-250-T3-S375 HX55 R2	1/4	3/8	3°	1.533	4.00	3/8	68.00

Two Flute Ball and Bull-Nose Solid Carbide End Mills HX-55 Coated
for Rib Processing mold steels up to 55 HRC

Two-Flute Ball End Mills Rib Processing

End Mill Type	Catalog Number	Effective Cutting Diameter	Flute Length	Degree of Taper Per Side	Length of Relief From Tip	Overall Length	Shank Diameter	List Price
Two-Flute Ball-Nose With Relief	XFBR-1MM-R4-HX55	1MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFBR-1MM-R8-HX55	1MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFBR-1MM-R12-HX55	1MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFBR-1.5MM-R4-HX55	1.5MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFBR-1.5MM-R8-HX55	1.5MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFBR-1.5MM-R12-HX55	1.5MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFBR-1.5MM-R20-HX55	1.5MM	1.2MM	Straight	20MM	58MM	4MM	28.00
	XFBR-2MM-R4-HX55	2MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFBR-2MM-R8-HX55	2MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFBR-2MM-R12-HX55	2MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFBR-2MM-R20-HX55	2MM	1.2MM	Straight	20MM	58MM	4MM	28.00
Two-Flute Bull-Nose End Mills Rib Proessing								
Two-Flute Bull-Nose With Relief .2 MM Radius	XFR-1MM-R4-HX55 R.2	1MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFR-1MM-R8-HX55 R.2	1MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFR-1MM-R12-HX55 R.2	1MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFR-1.5MM-R4-HX55 R.2	1.5MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFR-1.5MM-R8-HX55 R.2	1.5MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFR-1.5MM-R12-HX55 R.2	1.5MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFR-1.5MM-R20-HX55 R.2	1.5MM	1.2MM	Straight	20MM	58MM	4MM	28.00
	XFR-2MM-R4-HX55 R.2	2MM	1.2MM	Straight	4MM	58MM	4MM	28.00
	XFR-2MM-R8-HX55 R.2	2MM	1.2MM	Straight	8MM	58MM	4MM	28.00
	XFR-2MM-R12-HX55 R.2	2MM	1.2MM	Straight	12MM	58MM	4MM	28.00
	XFR-2MM-R20-HX55 R.2	2MM	1.2MM	Straight	20MM	58MM	4MM	28.00

Four Flute Ball Solid Carbide End Mills HX-55 Coated
for High Performance Machining of Dies and Molds up to 55 HRC

HX-55 COATED MINI MILLS AND CLEARANCE CUTTERS							
END MILL TYPE	CATALOG NUMBER	EFFECTIVE CUTTING DIAMETER	FLUTE LENGTH	REACH FROM TIP	OVERALL LENGTH	SHANK DIAMETER	LIST PRICE
4 FLUTE BALL CLEARANCE CUTTERS	BCS-32-R50-HX55	.032	.250	.500 STRAIGHT	3.00	.125	24.00
	BCS-32-R75-HX55	.032	.250	.750 STRAIGHT	3.00	.125	24.00
	BCS-39-R50-HX55	.039	.250	.500 STRAIGHT	3.00	.125	24.00
	BCS-39-R75-HX55	.039	.250	.750 STRAIGHT	3.00	.125	24.00
	BCS-62-R50-HX55	.062	.250	.500 STRAIGHT	3.00	.125	30.00
	BCS-62-R75-HX55	.062	.250	.750 STRAIGHT	3.00	.125	30.00
	BCS-62-R10-HX55	.062	.250	1.000 STRAIGHT	3.00	.125	30.00
	BCS-80-R50-HX55	.080	.250	.500 STRAIGHT	3.00	.125	32.00
	BCS-80-R75-HX55	.080	.250	.750 STRAIGHT	3.00	.125	32.00
	BCS-80-R10-HX55	.080	.250	1.000 STRAIGHT	3.00	.125	32.00
	BCC-32-F25-HX55	.032	.250	.750 TAPERED	2.50	.125	24.00
	BCC-39-F25-HX55	.039	.250	.750 TAPERED	2.50	.125	24.00
	BCC-62-F50-HX55	.062	.500	.500 STRAIGHT	2.50	.125	30.00
	BCC-80-F50 HX55	.080	.500	.500 STRAIGHT	2.50	.125	32.00
4 FLUTE BALL MINI MILLS	BMM-32-F25-HX55	.032	.250	NONE	2.50	.125	22.00
	BMM-39-F25-HX55	.039	.250	NONE	2.50	.125	22.00
	BMM-47-F25-HX55	.047	.250	NONE	2.50	.125	32.00
	BMM-62-F50-HX55	.062	.500	NONE	2.50	.125	32.00
	BMM-80-F50-HX55	.080	.500	NONE	2.50	.125	34.00
4 FLUTE FLAT MINI MILLS	FMM-32-F25-HX55	.032	.250	NONE	2.50	.125	22.00
	FMM-39-F25-HX55	.039	.250	NONE	2.50	.125	22.00
	FMM-47-F25-HX55	.047	.250	NONE	2.50	.125	32.00
	FMM-62-F50-HX55	.062	.500	NONE	2.50	.125	32.00
	FMM-80-F50-HX55	.080	.500	NONE	2.50	.125	34.00

Two Flute Ball and Bull-Nose Solid Carbide End Mills HX-55 Coated
for High Performance Machining of Dies and Molds up to 55 HRC

Two-Flute Ball End Mills METRIC Diameters:								
End Mill Type	Catalog Number	Effective Cutting Diameter	Flute Length	Degree of Taper Per Side	Length of Relief From Tip	Overall Length	Shank Diameter	List Price
Two-Flute Ball-Nose Without Relief	XFB-3MM HX55	3 mm	6 mm	NONE	NONE	76 mm	3 mm	26.00
	XFB-4MM HX55	4 mm	8 mm	NONE	NONE	76 mm	4 mm	26.00
	XFB-6MM HX55	6 mm	12 mm	NONE	NONE	76 mm	6 mm	36.00
	XFB-8MM HX55	8 mm	16 mm	NONE	NONE	76 mm	8 mm	38.00
	XFB-10MM HX55	10 mm	20 mm	NONE	NONE	101 mm	10 mm	71.00
Two-Flute Ball-Nose With Tapered Relief	XFB-1MM-T3-S3MM HX55	1 mm	2 mm	3°	24.60 mm	76 mm	3 mm	28.00
	XFB-1MM-T8-S3MM HX55	1 mm	2 mm	8°	9.150 mm	76 mm	3 mm	31.00
	XFB-1.5MM-T3-S5MM HX55	1.5 mm	3 mm	3°	35.30 mm	76 mm	5 mm	31.00
	XFB-2MM-T3-S3MM HX55	2 mm	4 mm	3°	6.600 mm	76 mm	3 mm	31.00
	XFB-2MM-T3-S4MM HX55	2 mm	4 mm	3°	24.50 mm	76 mm	4 mm	34.00
	XFB-2MM-T3-S6MM HX55	2 mm	4 mm	3°	42.07 mm	76 mm	6 mm	41.00
	XFB-2MM-T8-S6MM HX55	2 mm	4 mm	8°	19.00 mm	76 mm	6 mm	41.00
	XFB-3MM-T3-S4MM HX55	3 mm	6 mm	3°	17.75 mm	76 mm	4 mm	32.00
	XFB-3MM-T3-S6MM HX55	3 mm	6 mm	3°	34.40 mm	76 mm	6 mm	41.00
	XFB-3MM-T8-S6MM HX55	3 mm	6 mm	8°	18.60 mm	76 mm	6 mm	41.00
	XFB-4MM-T3-S6MM HX55	4 mm	8 mm	3°	28.85 mm	76 mm	6 mm	41.00
	XFB-6MM-T3-S8MM HX55	6 mm	12 mm	3°	33.20 mm	76 mm	8 mm	49.00
	XFB-6MM-T3-S10MM HX55	6 mm	12 mm	3°	51.80 mm	101 mm	10 mm	68.00
	XFB-8MM-T3-S10MM HX55	8 mm	16 mm	3°	36.88 mm	76 mm	10 mm	52.00
	XFB-10MM-T3-S12MM HX55	10 mm	20 mm	3°	42.30 mm	101 mm	12 mm	89.00
Two-Flute Ball-Nose 1-1/2° Tapered Relief	XFB-2MM-T1.5-S6MM HX55	2 mm	4 mm	1.5°	50 mm	101 mm	6 mm	44.00
	XFB-3MM-T1.5-S6MM HX55	3 mm	6 mm	1.5°	50 mm	101 mm	6 mm	46.00
	XFB-4MM-T1.5-S6MM HX55	4 mm	8 mm	1.5°	50 mm	101 mm	6 mm	43.00
	XFB-6MM-T1.5-S8MM HX55	6 mm	12 mm	1.5°	50 mm	101 mm	8 mm	52.00
Two-Flute Bull-Nose End Mills:								
Two-Flute Bull-Nose Radius: R.5 = .5 mm R1 = 1 mm	XFR-3MM HX55 R.5	3 mm	6 mm	NONE	NONE	76 mm	3 mm	27.00
	XFR-4MM HX55 R.5	4 mm	8 mm	NONE	NONE	76 mm	4 mm	27.00
	XFR-6MM HX55 R.5	6 mm	12 mm	NONE	NONE	76 mm	6 mm	34.00
	XFR-8MM HX55 R1	8 mm	16 mm	NONE	NONE	76 mm	8 mm	62.00
	XFR-10MM HX55 R1	10 mm	20 mm	NONE	NONE	101 mm	10 mm	72.00
Two-Flute Bull-Nose With Tapered Relief Radius: R.5 = .5 mm R1 = 1 mm	XFR-2MM-T3-S3MM HX55 R.5	2 mm	4 mm	3°	15.00 mm	76 mm	3 mm	29.00
	XFR-2MM-T3-S4MM HX55 R.5	2 mm	4 mm	3°	24.54 mm	76 mm	4 mm	30.00
	XFR-3MM-T3-S4MM HX55 R.5	3 mm	6 mm	3°	17.65 mm	76 mm	4 mm	29.00
	XFR-3MM-T3-S6MM HX55 R.5	3 mm	6 mm	3°	35.50 mm	76 mm	6 mm	31.00
	XFR-4MM-T3-S6MM HX55 R.5	4 mm	8 mm	3°	30.90 mm	76 mm	6 mm	38.00
	XFR-6MM-T3-S8MM HX55 R.5	6 mm	12 mm	3°	33.15 mm	76 mm	8 mm	48.00
	XFR-6MM-T3-S10MM HX55 R1	6 mm	12 mm	3°	52.28 mm	101 mm	10 mm	69.00
	XFR-10MM-T3-S12MM HX55 R1	10 mm	20 mm	3°	42.45 mm	101 mm	12 mm	85.00

Four Flute Flat and Radius Solid Carbide End Mills HX-55 Coated
for High Performance Machining of Dies and Molds up to 55 HRc

Four Flute Ball Solid Carbide End Mills HX-55 Coated
for High Performance Machining of Dies and Molds up to 55 HRc

HX-55 COATED END MILLS						
END MILL TYPE	CATALOG NUMBER	EFFECTIVE CUTTING DIAMETER	FLUTE LENGTH	OVERALL LENGTH	SHANK DIAMETER	LIST PRICE
4 FLUTE FLAT STANDARD LENGTH	FH-4S-032-HX55	.032	.125	1.50	.125	15.00
	FH-4S-047-HX55	.047	.125	1.50	.125	15.00
	FH-4S-063-HX55	.063	.250	1.50	.125	14.00
	FH-4S-078-HX55	.078	.250	1.50	.125	14.00
	FH-4S-125-HX55*	.125	.500	1.50	.125	13.00
	FH-4S-187-HX55*	.187	.625	2.00	.187	17.00
	FH-4S-250-HX55*	.250	.750	2.50	.250	26.00
	FH-4S-375-HX55*	.375	1.000	2.50	.375	32.00
	FH-4S-500-HX55*	.500	1.000	3.00	.500	53.00
	FH-4S-625-HX55*	.625	1.250	3.50	.625	85.00
	FH-4S-750-HX55*	.750	1.500	4.00	.750	110.00
4 FLUTE FLAT LONG LENGTH	FH-4X-125-HX55*	.125	.750	2.25	.125	20.00
	FH-4X-187-HX55*	.187	.750	2.50	.187	21.00
	FH-4X-250-HX55*	.250	1.125	3.00	.250	28.00
	FH-4X-375-HX55*	.375	1.125	3.00	.375	42.00
	FH-4X-500-HX55*	.500	1.000	4.00	.500	63.00
	FH-4X-625-HX55*	.625	2.250	5.00	.625	95.00
	FH-4X-750-HX55*	.750	2.250	5.00	.750	125.00
4 FLUTE FLAT EXTRA LONG LENGTH	FH-4XL-125-HX55*	.125	1.000	3.00	.125	23.00
	FH-4XL-187-HX55*	.187	1.125	3.00	.187	26.00
	FH-4XL-250-HX55*	.250	1.500	4.00	.250	35.00
	FH-4XL-375-HX55*	.375	1.750	4.00	.375	49.00
	FH-4XL-500-HX55*	.500	3.000	6.00	.500	71.00
	FH-4XL-625-HX55*	.625	3.000	6.00	.625	115.00
	FH-4XL-750-HX55*	.750	3.000	6.00	.750	149.00

* IF NEEDED, INDICATE RADIUS SIZE TO COMPLETE ORDER:

R1= 1/64" RADIUS

R2= 1/32" RADIUS

R4= 1/16" RADIUS

R010= .010" RADIUS

R020= .020" RADIUS

HX-55 COATED END MILLS						
END MILL TYPE	CATALOG NUMBER	EFFECTIVE CUTTING DIAMETER	FLUTE LENGTH	OVERALL LENGTH	SHANK DIAMETER	LIST PRICE
4 FLUTE BALL STANDARD LENGTH	BH-4S-032-HX55	.032	.125	1.50	.125	15.00
	BH-4S-047-HX55	.047	.125	1.50	.125	15.00
	BH-4S-063-HX55	.063	.250	1.50	.125	14.00
	BH-4S-078-HX55	.078	.250	1.50	.125	14.00
	BH-4S-125-HX55	.125	.500	1.50	.125	13.00
	BH-4S-187-HX55	.187	.625	2.00	.187	17.00
	BH-4S-250-HX55	.250	.750	2.50	.250	26.00
	BH-4S-375-HX55	.375	1.000	2.50	.375	32.00
	BH-4S-500-HX55	.500	1.000	3.00	.500	53.00
	BH-4S-625-HX55	.625	1.250	3.50	.625	85.00
	BH-4S-750-HX55	.750	1.500	4.00	.750	110.00
4 FLUTE BALL LONG LENGTH	BH-4X-125-HX55	.125	.750	2.25	.125	20.00
	BH-4X-187-HX55	.187	.750	2.50	.187	21.00
	BH-4X-250-HX55	.250	1.125	3.00	.250	28.00
	BH-4X-375-HX55	.375	1.125	3.00	.375	42.00
	BH-4X-500-HX55	.500	1.000	4.00	.500	63.00
	BH-4X-625-HX55	.625	2.250	5.00	.625	95.00
	BH-4X-750-HX55	.750	2.250	5.00	.750	125.00
4 FLUTE BALL EXTRA LONG LENGTH	BH-4XL-125-HX55	.125	1.000	3.00	.125	23.00
	BH-4XL-187-HX55	.187	1.125	3.00	.187	26.00
	BH-4XL-250-HX55	.250	1.500	4.00	.250	35.00
	BH-4XL-375-HX55	.375	1.750	4.00	.375	49.00
	BH-4XL-500-HX55	.500	3.000	6.00	.500	71.00
	BH-4XL-625-HX55	.625	3.000	6.00	.625	115.00
	BH-4XL-750-HX55	.750	3.000	6.00	.750	149.00