

**HPS U-CUP FAMILY**

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/8"	Tolerance Limits				+0.010 -.000	+0.002 -.000	+0.000 -.001	+0.000 -.002	+0.000 -.001	+0.002 -.000	+0.002 -.000
	125-00.125	1/8	3/8	1/8	.138	.375	.374	.125	.125	.126	.375
	125-00.125-250			1/4	.275						
	125-00.187	3/16	7/16	1/8	.138	.437	.436	.187	.187	.188	.437
	125-00.187-250			1/4	.275						
	125-00.250	1/4	1/2	1/8	.138	.500	.499	.250	.250	.251	.500
	125-00.250-250			1/4	.275						
	125-00.312	5/16	9/16	1/8	.138	.562	.561	.312	.312	.313	.562
	125-00.312-250			1/4	.275						
	125-00.375	3/8	5/8	1/8	.138	.625	.624	.375	.375	.376	.625
	125-00.375-250			1/4	.275						
	125-00.437	7/16	11/16	1/8	.138	.687	.686	.437	.437	.438	.687
	125-00.437-250			1/4	.275						
	125-00.500	1/2	3/4	1/8	.138	.750	.749	.500	.500	.501	.750
	125-00.500-250			1/4	.275						
	125-00.562	9/16	13/16	1/8	.138	.812	.811	.562	.562	.563	.812
	125-00.562-250			1/4	.275						
	125-00.625	5/8	7/8	1/8	.138	.875	.874	.625	.625	.626	.875
	125-00.625-250			1/4	.275						
	125-00.687	11/16	15/16	1/8	.138	.937	.936	.687	.687	.688	.937
	125-00.687-250			1/4	.275						
	125-00.750	3/4	1	1/8	.138	1.000	.999	.750	.750	.751	1.000
	125-00.750-250			1/4	.275						
	125-00.812	13/16	1-1/16	1/8	.138	1.062	1.061	.812	.812	.813	1.062
	125-00.812-250			1/4	.275						
	125-00.875	7/8	1-1/8	1/8	.138	1.125	1.124	.875	.875	.876	1.125
	125-00.875-250			1/4	.275						
	125-00.937	15/16	1-3/16	1/8	.138	1.187	1.186	.937	.937	.938	1.187
	125-00.937-250			1/4	.275						
	125-01.000	1	1-1/4	1/8	.138	1.250	1.249	1.000	1.000	1.001	1.250
	125-01.000-250			1/4	.275						
	125-01.062	1-1/16	1-5/16	1/8	.138	1.312	1.311	1.062	1.062	1.063	1.312
	125-01.062-250			1/4	.275						
	125-01.125	1-1/8	1-3/8	1/8	.138	1.375	1.374	1.125	1.125	1.126	1.375
	125-01.125-250			1/4	.275						
	125-01.187	1-3/16	1-7/16	1/8	.138	1.437	1.436	1.187	1.187	1.188	1.437
	125-01.187-250			1/4	.275						
	125-01.250	1-1/4	1-1/2	1/8	.138	1.500	1.499	1.250	1.250	1.251	1.500
	125-01.250-250			1/4	.275						
	125-01.312	1-5/16	1-9/16	1/8	.138	1.562	1.561	1.312	1.312	1.313	1.562
	125-01.312-250			1/4	.275						
	125-01.375	1-3/8	1-5/8	1/8	.138	1.625	1.624	1.375	1.375	1.376	1.625
	125-01.375-250			1/4	.275						
	125-01.437	1-7/16	1-11/16	1/8	.138	1.687	1.686	1.437	1.437	1.438	1.687
	125-01.437-250			1/4	.275						
	125-01.500	1-1/2	1-3/4	1/8	.138	1.750	1.749	1.500	1.500	1.501	1.750
	125-01.500-250			1/4	.275						
	125-01.625	1-5/8	1-7/8	1/8	.138	1.875	1.874	1.625	1.625	1.626	1.875
	125-01.625-250			1/4	.275						
	125-01.750	1-3/4	2	1/8	.138	2.000	1.999	1.750	1.750	1.751	2.000
	125-01.750-250			1/4	.275						
	125-01.875	1-7/8	2-1/8	1/8	.138	2.125	2.124	1.875	1.875	1.876	2.125
125-01.875-250	1/4			.275							
125-02.000	2	2-1/4	1/8	.138	2.250	2.249	2.000	2.000	2.001	2.250	
125-02.000-250			1/4	.275							
125-02.125	2-1/8	2-3/8	1/8	.138	2.375	2.374	2.125	2.125	2.126	2.375	
125-02.125-250			1/4	.275							
125-02.250	2-1/4	2-1/2	1/8	.138	2.500	2.499	2.250	2.250	2.251	2.500	
125-02.250-250			1/4	.275							
125-02.375	2-3/8	2-5/8	1/8	.138	2.625	2.624	2.375	2.375	2.376	2.625	
125-02.375-250			1/4	.275							
125-02.500	2-1/2	2-3/4	1/8	.138	2.750	2.749	2.500	2.500	2.501	2.750	
125-02.500-250			1/4	.275							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
3/16"	Tolerance Limits				+0.10 -.000	+0.02 -.000	+0.00 -.002	+0.00 -.002	+0.00 -.002	+0.02 -.000	+0.02 -.000
	187-00.187	3/16	9/16	3/16	.207	.562	.561	.187	.187	.188	.562
	187-00.187-312			5/16	.344						
	187-00.250	1/4	5/8	3/16	.207	.625	.624	.250	.250	.251	.625
	187-00.250-312			5/16	.344						
	187-00.312	5/16	11/16	3/16	.207	.687	.686	.312	.312	.313	.687
	187-00.312-312			5/16	.344						
	187-00.375	3/8	3/4	3/16	.207	.750	.749	.375	.375	.376	.750
	187-00.375-312			5/16	.344						
	187-00.437	7/16	13/16	3/16	.207	.812	.811	.437	.437	.438	.812
	187-00.437-312			5/16	.344						
	187-00.500	1/2	7/8	3/16	.207	.875	.874	.500	.500	.501	.875
	187-00.500-312			5/16	.344						
	187-00.562	9/16	15/16	3/16	.207	.937	.936	.562	.562	.563	.937
	187-00.562-312			5/16	.344						
	187-00.625	5/8	1	3/16	.207	1.000	.999	.625	.625	.626	1.000
	187-00.625-312			5/16	.344						
	187-00.687	11/16	1-1/16	3/16	.207	1.062	1.061	.687	.687	.688	1.062
	187-00.687-312			5/16	.344						
	187-00.750	3/4	1-1/8	3/16	.207	1.125	1.124	.750	.750	.751	1.125
	187-00.750-312			5/16	.344						
	187-00.812	13/16	1-3/16	3/16	.207	1.187	1.186	.812	.812	.813	1.187
	187-00.812-312			5/16	.344						
	187-00.875	7/8	1-1/4	3/16	.207	1.250	1.249	.875	.875	.876	1.250
	187-00.875-312			5/16	.344						
	187-00.937	15/16	1-5/16	3/16	.207	1.312	1.311	.937	.937	.938	1.312
	187-00.937-312			5/16	.344						
	187-01.000	1	1-3/8	3/16	.207	1.375	1.374	1.000	1.000	1.001	1.375
	187-01.000-312			5/16	.344						
	187-01.062	1-1/16	1-7/16	3/16	.207	1.437	1.436	1.062	1.062	1.063	1.437
	187-01.062-312			5/16	.344						
	187-01.125	1-1/8	1-1/2	3/16	.207	1.500	1.499	1.125	1.125	1.126	1.500
	187-01.125-312			5/16	.344						
	187-01.187	1-3/16	1-9/16	3/16	.207	1.562	1.561	1.187	1.187	1.188	1.562
	187-01.187-312			5/16	.344						
	187-01.250	1-1/4	1-5/8	3/16	.207	1.625	1.624	1.250	1.250	1.251	1.625
	187-01.250-312			5/16	.344						
	187-01.312	1-5/16	1-11/16	3/16	.207	1.687	1.686	1.312	1.312	1.313	1.687
	187-01.312-312			5/16	.344						
	187-01.375	1-3/8	1-3/4	3/16	.207	1.750	1.749	1.375	1.375	1.376	1.750
	187-01.375-312			5/16	.344						
	187-01.437	1-7/16	1-13/16	3/16	.207	1.812	1.811	1.437	1.437	1.438	1.812
	187-01.437-312			5/16	.344						
	187-01.500	1-1/2	1-7/8	3/16	.207	1.875	1.874	1.500	1.500	1.501	1.875
	187-01.500-375			3/8	.413						
	187-01.625	1-5/8	2	3/16	.207	2.000	1.999	1.625	1.625	1.626	2.000
	187-01.625-375			3/8	.413						
	187-01.687	1-11/16	2-1/16	3/16	.207	2.062	2.061	1.687	1.687	1.688	2.062
	187-01.687-375			3/8	.413						
	187-01.750	1-3/4	2-1/8	3/16	.207	2.125	2.124	1.750	1.750	1.751	2.125
	187-01.750-375			3/8	.413						
	187-01.875	1-7/8	2-1/4	3/16	.207	2.250	2.249	1.875	1.875	1.876	2.250
	187-01.875-375			3/8	.413						
	187-02.000	2	2-3/8	3/16	.207	2.375	2.374	2.000	2.000	2.001	2.375
187-02.000-375	3/8			.413							
187-02.125	2-1/8	2-1/2	3/16	.207	2.500	2.499	2.125	2.125	2.126	2.500	
187-02.125-375			3/8	.413							
187-02.250	2-1/4	2-5/8	3/16	.207	2.625	2.624	2.250	2.250	2.251	2.625	
187-02.250-375			3/8	.413							
187-02.375	2-3/8	2-3/4	3/16	.207	2.750	2.749	2.375	2.375	2.376	2.750	
187-02.375-375			3/8	.413							
187-02.500	2-1/2	2-7/8	3/16	.207	2.875	2.874	2.500	2.500	2.501	2.875	
187-02.500-375			3/8	.413							

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C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
3/16"	Tolerance Limits				+0.010 -0.000	+0.002 -0.000	+0.000 -0.002	+0.000 -0.002	+0.000 -0.002	+0.002 -0.000	+0.002 -0.000
	187-02.625	2-5/8	3	3/16	.207	3.000	2.999	2.625	2.625	2.626	3.000
	187-02.625-375			3/8	.413						
	187-02.750	2-3/4	3-1/8	3/16	.207	3.125	3.124	2.750	2.750	2.751	3.125
	187-02.750-375			3/8	.413						
	187-02.875	2-7/8	3-1/4	3/16	.207	3.250	3.249	2.875	2.875	2.876	3.250
	187-02.875-375			3/8	.413						
	187-03.000	3	3-3/8	3/16	.207	3.375	3.374	3.000	3.000	3.001	3.375
	187-03.000-375			3/8	.413						
	187-03.125	3-1/8	3-1/2	3/16	.207	3.500	3.499	3.125	3.125	3.126	3.500
	187-03.125-375			3/8	.413						
	187-03.250	3-1/4	3-5/8	3/16	.207	3.625	3.624	3.250	3.250	3.251	3.625
	187-03.250-375			3/8	.413						
	187-03.375	3-3/8	3-3/4	3/16	.207	3.750	3.749	3.375	3.375	3.376	3.750
	187-03.375-375			3/8	.413						
	187-03.500	3-1/2	3-7/8	3/16	.207	3.875	3.874	3.500	3.500	3.501	3.875
	187-03.500-375			3/8	.413						
	187-03.625	3-5/8	4	3/16	.207	4.000	3.999	3.625	3.625	3.626	4.000
	187-03.625-375			3/8	.413						
	187-03.750	3-3/4	4-1/8	3/16	.207	4.125	4.124	3.750	3.750	3.751	4.125
	187-03.750-375			3/8	.413						
	187-03.875	3-7/8	4-1/4	3/16	.207	4.250	4.249	3.875	3.875	3.876	4.250
	187-03.875-375			3/8	.413						
	187-04.000	4	4-3/8	3/16	.207	4.375	4.374	4.000	4.000	4.001	4.375
	187-04.000-375			3/8	.413						
	187-04.125	4-1/8	4-1/2	3/16	.207	4.500	4.499	4.125	4.125	4.126	4.500
	187-04.125-375			3/8	.413						
	187-04.250	4-1/4	4-3/4	3/16	.207	4.625	4.624	4.250	4.250	4.251	4.625
	187-04.250-375			3/8	.413						
	187-04.375	4-3/8	4-3/4	3/16	.207	4.750	4.749	4.375	4.375	4.376	4.750
	187-04.375-375			3/8	.413						
	187-04.500	4-1/2	4-7/8	3/16	.207	4.875	4.874	4.500	4.500	4.501	4.875
187-04.500-375	3/8			.413							

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C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/4"	Tolerance Limits				+0.10 -.000	+0.003 -.000	+0.000 -.002	+0.000 -.003	+0.000 -.002	+0.003 -.000	+0.003 -.000
	250-00.250	1/4	3/4	1/4	.275	.750	.749	.250	.250	.251	.750
	250-00.250-375			3/8	.413						
	250-00.312	5/16	13/16	1/4	.275	.812	.811	.312	.312	.313	.812
	250-00.312-375			3/8	.413						
	250-00.375	3/8	7/8	1/4	.275	.875	.874	.375	.375	.376	.875
	250-00.375-375			3/8	.413						
	250-00.437	7/16	15/16	1/4	.275	.937	.936	.437	.437	.438	.937
	250-00.437-375			3/8	.413						
	250-00.500	1/2	1	1/4	.275	1.000	.999	.500	.500	.501	1.000
	250-00.500-375			3/8	.413						
	250-00.562	9/16	1-1/16	1/4	.275	1.062	1.061	.562	.562	.563	1.062
	250-00.562-375			3/8	.413						
	250-00.625	5/8	1-1/8	1/4	.275	1.125	1.124	.625	.625	.626	1.125
	250-00.625-375			3/8	.413						
	250-00.687	11/16	1-3/16	1/4	.275	1.187	1.186	.687	.687	.688	1.187
	250-00.687-375			3/8	.413						
	250-00.750	3/4	1-1/4	1/4	.275	1.250	1.249	.750	.750	.751	1.250
	250-00.750-375			3/8	.413						
	250-00.812	13/16	1-5/16	1/4	.275	1.312	1.311	.812	.812	.813	1.312
	250-00.812-375			3/8	.413						
	250-00.875	7/8	1-3/8	1/4	.275	1.375	1.374	.875	.875	.876	1.375
	250-00.875-375			3/8	.413						
	250-00.937	15/16	1-7/16	1/4	.275	1.437	1.436	.937	.937	.938	1.437
	250-00.937-375			3/8	.413						
	250-01.000	1	1-1/2	1/4	.275	1.500	1.499	1.000	1.000	1.001	1.500
	250-01.000-375			3/8	.413						
	250-01.062	1-1/16	1-9/16	1/4	.275	1.562	1.561	1.062	1.062	1.063	1.562
	250-01.062-375			3/8	.413						
	250-01.125	1-1/8	1-5/8	1/4	.275	1.625	1.624	1.125	1.125	1.126	1.625
	250-01.125-375			3/8	.413						
	250-01.187	1-3/16	1-11/16	1/4	.275	1.687	1.686	1.187	1.187	1.188	1.687
	250-01.187-375			3/8	.413						
	250-01.250	1-1/4	1-3/4	1/4	.275	1.750	1.749	1.250	1.250	1.251	1.750
	250-01.250-375			3/8	.413						
	250-01.312	1-5/16	1-13/16	1/4	.275	1.812	1.811	1.312	1.312	1.313	1.812
	250-01.312-375			3/8	.413						
	250-01.375	1-3/8	1-7/8	1/4	.275	1.875	1.874	1.375	1.375	1.376	1.875
	250-01.375-375			3/8	.413						
	250-01.437	1-7/16	1-15/16	1/4	.275	1.937	1.936	1.437	1.437	1.438	1.937
	250-01.437-375			3/8	.413						
	250-01.500	1-1/2	2	1/4	.275	2.000	1.999	1.500	1.500	1.501	2.000
	250-01.500-375			3/8	.413						
	250-01.625	1-5/8	2-1/8	1/4	.275	2.125	2.124	1.625	1.625	1.626	2.125
	250-01.625-375			3/8	.413						
	250-01.750	1-3/4	2-1/4	1/4	.275	2.250	2.249	1.750	1.750	1.751	2.250
	250-01.750-375			3/8	.413						
	250-01.875	1-7/8	2-3/8	1/4	.275	2.375	2.374	1.875	1.875	1.876	2.375
250-01.875-375	3/8			.413							
250-02.000	2	2-1/2	1/4	.275	2.500	2.499	2.000	2.000	2.001	2.500	
250-02.000-375			3/8	.413							
250-02.125	2-1/8	2-5/8	1/4	.275	2.625	2.624	2.125	2.125	2.126	2.625	
250-02.125-375			3/8	.413							
250-02.250	2-1/4	2-3/4	1/4	.275	2.750	2.749	2.250	2.250	2.251	2.750	
250-02.250-375			3/8	.413							
250-02.375	2-3/8	2-7/8	1/4	.275	2.875	2.874	2.375	2.375	2.376	2.875	
250-02.375-375			3/8	.413							
250-02.500	2-1/2	3	1/4	.275	3.000	2.999	2.500	2.500	2.501	3.000	
250-02.500-375			3/8	.413							
250-02.625	2-5/8	3-1/8	1/4	.275	3.125	3.124	2.625	2.625	2.626	3.125	
250-02.625-375			3/8	.413							
250-02.750	2-3/4	3-1/4	1/4	.275	3.250	3.249	2.750	2.750	2.751	3.250	
250-02.750-375			3/8	.413							

**HPS U-CUP FAMILY**

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/4"	Tolerance Limits				+0.10 -.000	+0.003 -.000	+0.000 -.002	+0.000 -.003	+0.000 -.002	+0.003 -.000	+0.003 -.000
	250-02.875	2-7/8	3-3/8	1/4	.275	3.375	3.374	2.875	2.875	2.876	3.375
	250-02.875-375			3/8	.413						
	250-03.000	3	3-1/2	1/4	.275	3.500	3.499	3.000	3.000	3.001	3.500
	250-03.000-375			3/8	.413						
	250-03.125	3-1/8	3-5/8	1/4	.275	3.625	3.624	3.125	3.125	3.126	3.625
	250-03.125-375			3/8	.413						
	250-03.250	3-1/4	3-3/4	1/4	.275	3.750	3.749	3.250	3.250	3.251	3.750
	250-03.250-375			3/8	.413						
	250-03.375	3-3/8	3-7/8	1/4	.275	3.875	3.874	3.375	3.375	3.376	3.875
	250-03.375-375			3/8	.413						
	250-03.500	3-1/2	4	1/4	.275	4.000	3.999	3.500	3.500	3.501	4.000
	250-03.500-375			3/8	.413						
	250-03.625	3-5/8	4-1/8	1/4	.275	4.125	4.124	3.625	3.625	3.626	4.125
	250-03.625-375			3/8	.413						
	250-03.750	3-3/4	4-1/4	1/4	.275	4.250	4.249	3.750	3.750	3.751	4.250
	250-03.750-375			3/8	.413						
	250-04.000	4	4-1/2	1/4	.275	4.500	4.499	4.000	4.000	4.001	4.500
	250-04.000-562			9/16	.619						
	250-04.125	4-1/8	4-5/8	1/4	.275	4.625	4.624	4.125	4.125	4.126	4.625
	250-04.125-562			9/16	.619						
	250-04.250	4-1/4	4-3/4	1/4	.275	4.750	4.749	4.250	4.250	4.251	4.750
	250-04.250-562			9/16	.619						
	250-04.375	4-3/8	4-7/8	1/4	.275	4.875	4.874	4.375	4.375	4.376	4.875
	250-04.375-562			9/16	.619						
	250-04.500	4-1/2	5	1/4	.275	5.000	4.999	4.500	4.500	4.501	5.000
	250-04.500-562			9/16	.619						
	250-04.625	4-5/8	5-1/8	1/4	.275	5.125	5.124	4.625	4.625	4.626	5.125
	250-04.625-562			9/16	.619						
	250-04.750	4-3/4	5-1/4	1/4	.275	5.250	5.249	4.750	4.750	4.751	5.250
	250-04.750-562			9/16	.619						
	250-04.875	4-7/8	5-3/8	1/4	.275	5.375	5.374	4.875	4.875	4.876	5.375
	250-04.875-562			9/16	.619						
	250-05.000	5	5-1/2	1/4	.275	5.500	5.499	5.000	5.000	5.001	5.500
	250-05.000-562			9/16	.619						
	250-05.125	5-1/8	5-5/8	1/4	.275	5.625	5.624	5.125	5.125	5.126	5.625
	250-05.125-562			9/16	.619						
	250-05.250	5-1/4	5-3/4	1/4	.275	5.750	5.749	5.250	5.250	5.251	5.750
	250-05.250-562			9/16	.619						
	250-05.375	5-3/8	5-7/8	1/4	.275	5.875	5.874	5.375	5.375	5.376	5.875
	250-05.375-562			9/16	.619						
	250-05.500	5-1/2	6	1/4	.275	6.000	5.999	5.500	5.500	5.501	6.000
	250-05.500-562			9/16	.619						
	250-05.625	5-5/8	6-1/8	1/4	.275	6.125	6.124	5.625	5.625	5.626	6.125
	250-05.625-562			9/16	.619						
	250-05.750	5-3/4	6-1/4	1/4	.275	6.250	5.249	5.750	5.750	5.751	6.250
	250-05.750-562			9/16	.619						
	250-05.875	5-7/8	6-3/8	1/4	.275	6.375	6.374	5.875	5.875	5.876	6.375
	250-05.875-562			9/16	.619						
	250-06.000	6	6-1/2	1/4	.275	6.500	6.499	6.000	6.000	6.001	6.500
	250-06.000-562			9/16	.619						
	250-06.250	6-1/4	6-3/4	1/4	.275	6.750	6.749	6.250	6.250	6.251	6.750
	250-06.250-562			9/16	.619						
	250-06.500	6-1/2	7	1/4	.275	7.000	6.999	6.500	6.500	6.501	7.000
	250-06.500-562			9/16	.619						
	250-06.750	6-3/4	7-1/4	1/4	.275	7.250	7.249	6.750	6.750	6.751	7.250
250-06.750-562	9/16			.619							
250-07.000	7	7-1/2	1/4	.275	7.500	7.499	7.000	7.000	7.001	7.500	
250-07.000-562			9/16	.619							
250-07.250	7-1/4	7-3/4	1/4	.275	7.750	7.749	7.250	7.250	7.251	7.750	
250-07.250-562			9/16	.619							
250-07.500	7-1/2	8	1/4	.275	8.000	7.999	7.500	7.500	7.501	8.000	
250-07.500-562			9/16	.619							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/4"	Tolerance Limits				+ .010 - .000	+ .003 - .000	+ .000 - .002	+ .000 - .003	+ .000 - .002	+ .003 - .000	+ .003 - .000
	250-07.750	7-3/4	8-1/4	1/4	.275	8.250	8.249	7.750	7.750	7.751	8.250
	250-07.750-562			9/16	.619						
	250-08.000	8	8-1/4	1/4	.275	8.500	8.499	8.000	8.000	8.001	8.500
	250-08.000-562			9/16	.619						
	250-08.250	8-1/4	8-3/4	1/4	.275	8.750	3.749	8.250	8.250	8.251	8.750
	250-08.250-562			9/16	.619						
	250-08.500	8-1/2	9	1/4	.275	9.000	8.999	8.500	8.500	8.501	9.000
	250-08.500-562			9/16	.619						
	250-08.750	8-3/4	9-1/4	1/4	.275	9.250	9.249	8.750	8.750	8.751	9.250
	250-08.750-562			9/16	.619						
	250-09.000	9	9-1/2	1/4	.275	9.500	9.499	9.000	9.000	9.001	9.500
	250-09.000-562			9/16	.619						
	250-09.250	9-1/4	9-3/4	1/4	.275	9.750	9.749	9.250	9.250	9.251	9.750
	250-09.250-562			9/16	.619						
	250-09.500	9-1/2	10	1/4	.275	10.000	9.999	9.500	9.500	9.501	10.000
	250-09.500-562			9/16	.619						
	250-09.750	9-3/4	10-1/4	1/4	.275	10.250	10.249	9.750	9.750	9.751	10.250
	250-09.750-562			9/16	.619						
	250-10.000	10	10-1/2	1/4	.275	10.500	10.499	10.000	10.000	10.001	10.500
250-10.000-562	9/16			.619							

HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
5/16"	Tolerance Limits				+0.010 -0.000	+0.003 -0.000	+0.000 -0.002	+0.000 -0.004	+0.000 -0.002	+0.003 -0.000	+0.004 -0.000
	312-00.375	3/8	1	5/16	.344	1.000	.998	.375	.375	.377	1.000
	312-00.375-500			1/2	.550						
	312-00.437	7/16	1-1/16	5/16	.344	1.062	1.060	.437	.437	.439	1.062
	312-00.437-500			1/2	.550						
	312-00.500	1/2	1-1/8	5/16	.344	1.125	1.123	.500	.500	.502	1.125
	312-00.500-500			1/2	.550						
	312-00.562	9/16	1-3/16	5/16	.344	1.187	1.185	.562	.562	.564	1.187
	312-00.562-500			1/2	.550						
	312-00.625	5/8	1-1/4	5/16	.344	1.250	1.248	.625	.625	.627	1.250
	312-00.625-500			1/2	.550						
	312-00.687	11/16	1-5/16	5/16	.344	1.312	1.310	.687	.687	.689	1.312
	312-00.687-500			1/2	.550						
	312-00.750	3/4	1-3/8	5/16	.344	1.375	1.373	.750	.750	.752	1.375
	312-00.750-500			1/2	.550						
	312-00.812	13/16	1-7/16	5/16	.344	1.437	1.435	.812	.812	.814	1.437
	312-00.812-500			1/2	.550						
	312-00.875	7/8	1-1/2	5/16	.344	1.500	1.498	.875	.875	.877	1.500
	312-00.875-500			1/2	.550						
	312-00.937	15/16	1-9/16	5/16	.344	1.562	1.560	.937	.937	.939	1.562
	312-00.937-500			1/2	.550						
	312-01.000	1	1-5/8	5/16	.344	1.625	1.623	1.000	1.000	1.002	1.625
	312-01.000-500			1/2	.550						
	312-01.062	1-1/16	1-11/16	5/16	.344	1.687	1.685	1.062	1.062	1.064	1.687
	312-01.062-500			1/2	.550						
	312-01.125	1-1/8	1-3/4	5/16	.344	1.750	1.748	1.125	1.125	1.127	1.750
	312-01.125-500			1/2	.550						
	312-01.187	1-3/16	1-13/16	5/16	.344	1.812	1.810	1.187	1.187	1.189	1.812
	312-01.187-500			1/2	.550						
	312-01.250	1-1/4	1-7/8	5/16	.344	1.875	1.873	1.250	1.250	1.252	1.875
	312-01.250-500			1/2	.550						
	312-01.312	1-5/16	1-15/16	5/16	.344	1.937	1.935	1.312	1.312	1.314	1.937
	312-01.312-500			1/2	.550						
	312-01.375	1-3/8	2	5/16	.344	2.000	1.998	1.375	1.375	1.377	2.000
	312-01.375-500			1/2	.550						
	312-01.437	1-7/16	2-1/16	5/16	.344	2.062	2.060	1.437	1.437	1.439	2.062
	312-01.437-500			1/2	.550						
	312-01.500	1-1/2	2-1/8	5/16	.344	2.125	2.123	1.500	1.500	1.502	2.125
	312-01.500-500			1/2	.550						
	312-01.625	1-5/8	2-1/4	5/16	.344	2.250	2.248	1.625	1.625	1.627	2.250
	312-01.625-500			1/2	.550						
	312-01.750	1-3/4	2-3/8	5/16	.344	2.375	2.373	1.750	1.750	1.752	2.375
	312-01.750-500			1/2	.550						
	312-01.875	1-7/8	2-1/2	5/16	.344	2.500	2.498	1.875	1.875	1.877	2.500
	312-01.875-500			1/2	.550						
	312-02.000	2	2-5/8	5/16	.344	2.625	2.623	2.000	2.000	2.002	2.625
	312-02.000-500			1/2	.550						
	312-02.125	2-1/8	2-3/4	5/16	.344	2.750	2.748	2.125	2.125	2.127	2.750
	312-02.125-500			1/2	.550						
	312-02.250	2-1/4	2-7/8	5/16	.344	2.875	2.873	2.250	2.250	2.252	2.875
	312-02.250-500			1/2	.550						
	312-02.375	2-3/8	3	5/16	.344	3.000	2.998	2.375	2.375	2.377	3.000
	312-02.375-500			1/2	.550						
	312-02.500	2-1/2	3-1/8	5/16	.344	3.125	3.123	2.500	2.500	2.502	3.125
	312-02.500-500			1/2	.550						
312-02.625	2-5/8	3-1/4	5/16	.344	3.250	3.248	2.625	2.625	2.627	3.250	
312-02.625-500			1/2	.550							
312-02.750	2-3/4	3-3/8	5/16	.344	3.375	3.373	2.750	2.750	2.752	3.375	
312-02.750-500			1/2	.550							
312-02.875	2-7/8	3-1/2	5/16	.344	3.500	3.498	2.875	2.875	2.877	3.500	
312-02.875-500			1/2	.550							
312-03.000	3	3-5/8	5/16	.344	3.625	3.623	3.000	3.000	3.002	3.625	
312-03.000-500			1/2	.550							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
5/16"	Tolerance Limits				+0.010 -0.000	+0.003 -0.000	+0.000 -0.002	+0.000 -0.004	+0.000 -0.002	+0.003 -0.000	+0.004 -0.000
	312-03.125	3-1/8	3-3/4	5/16	.344	3.750	3.748	3.125	3.125	3.127	3.750
	312-03.125-500			1/2	.550						
	312-03.250	3-1/4	3-7/8	5/16	.344	3.875	3.873	3.250	3.250	3.252	3.875
	312-03.250-500			1/2	.550						
	312-03.375	3-3/8	4	5/16	.344	4.000	3.998	3.375	3.375	3.377	4.000
	312-03.375-500			1/2	.550						
	312-03.500	3-1/2	4-1/8	5/16	.344	4.125	4.123	3.500	3.500	3.502	4.125
	312-03.500-500			1/2	.550						
	312-03.625	3-5/8	4-1/4	5/16	.344	4.250	4.248	3.625	3.625	3.627	4.250
	312-03.625-500			1/2	.550						
	312-03.750	3-3/4	4-3/8	5/16	.344	4.375	4.373	3.750	3.750	3.752	4.375
	312-03.750-500			1/2	.550						
	312-03.875	3-7/8	4-1/2	5/16	.344	4.500	4.498	3.875	3.875	3.877	4.500
	312-03.875-500			1/2	.550						
	312-04.000	4	4-5/8	5/16	.344	4.625	4.623	4.000	4.000	4.002	4.625
	312-04.000-562			9/16	.619						
	312-04.125	4-1/8	4-3/4	5/16	.344	4.750	4.748	4.125	4.125	4.127	4.750
	312-04.125-562			9/16	.619						
	312-04.250	4-1/4	4-7/8	5/16	.344	4.875	4.873	4.250	4.250	4.252	4.875
	312-04.250-562			9/16	.619						
	312-04.375	4-3/8	5	5/16	.344	5.000	4.998	4.375	4.375	4.377	5.000
	312-04.375-562			9/16	.619						
	312-04.500	4-1/2	5-1/8	5/16	.344	5.125	5.123	4.500	4.500	4.502	5.125
	312-04.500-625			5/8	.688						
	312-04.625	4-5/8	5-1/4	5/16	.344	5.250	5.248	4.625	4.625	4.627	5.250
	312-04.625-625			5/8	.688						
	312-04.750	4-3/4	5-3/8	5/16	.344	5.375	5.373	4.750	4.750	4.752	5.375
	312-04.750-625			5/8	.688						
	312-04.875	4-7/8	5-1/2	5/16	.344	5.500	5.498	4.875	4.875	4.877	5.500
	312-04.875-625			5/8	.688						
	312-05.000	5	5-5/8	5/16	.344	5.625	5.623	5.000	5.000	5.002	5.625
	312-05.000-625			5/8	.688						
	312-05.125	5-1/8	5-3/4	5/16	.344	5.750	5.748	5.125	5.125	5.127	5.750
	312-05.125-625			5/8	.688						
	312-05.250	5-1/4	5-7/8	5/16	.344	5.875	5.873	5.250	5.250	5.252	5.875
	312-05.250-625			5/8	.688						
	312-05.375	5-3/8	6	5/16	.344	6.000	5.998	5.375	5.375	5.377	6.000
	312-05.375-625			5/8	.688						
	312-05.500	5-1/2	6-1/8	5/16	.344	6.125	6.123	5.500	5.500	5.502	6.125
	312-05.500-625			5/8	.688						
	312-05.625	5-5/8	6-1/4	5/16	.344	6.250	6.248	5.625	5.625	5.627	6.250
	312-05.625-625			5/8	.688						
	312-05.750	5-3/4	6-3/8	5/16	.344	6.375	6.373	5.750	5.750	5.752	6.375
	312-05.750-625			5/8	.688						
	312-05.875	5-7/8	6-1/2	5/16	.344	6.500	6.498	5.875	5.875	5.677	6.500
	312-05.875-625			5/8	.688						
	312-06.000	6	6-5/8	5/16	.344	6.625	6.623	6.000	6.000	6.002	6.625
	312-06.000-625			5/8	.688						
	312-06.125	6-1/8	6-3/4	5/16	.344	6.750	6.748	6.125	6.125	6.127	6.750
	312-06.125-625			5/8	.688						
	312-06.250	6-1/4	6-7/8	5/16	.344	6.875	6.873	6.250	6.250	6.252	6.875
	312-06.250-625			5/8	.688						
	312-06.375	6-3/8	7	5/16	.344	7.000	6.998	6.375	6.375	6.377	7.000
312-06.375-625	5/8			.688							
312-06.500	6-1/2	7-1/8	5/16	.344	7.125	7.123	6.500	6.500	6.502	7.125	
312-06.500-625			5/8	.688							
312-06.625	6-5/8	7-1/4	5/16	.344	7.250	7.248	6.625	6.625	6.627	7.250	
312-06.625-625			5/8	.688							
312-06.750	6-3/4	7-3/8	5/16	.344	7.375	7.373	6.750	6.750	6.752	7.375	
312-06.750-625			5/8	.688							
312-06.875	6-7/8	7-1/2	5/16	.344	7.500	7.498	6.875	6.875	6.877	7.500	
312-06.875-625			5/8	.688							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
5/16"	Tolerance Limits				+ .010 - .000	+ .003 - .000	+ .000 - .002	+ .000 - .004	+ .000 - .002	+ .003 - .000	+ .004 - .000
	312-07.000	7	7-5/8	5/16	.344	7.625	7.623	7.000	7.000	7.002	7.625
	312-07.000-625			5/8	.688						
	312-07.125	7-1/8	7-3/4	5/16	.344	7.750	7.748	7.125	7.125	7.127	7.750
	312-07.125-625			5/8	.688						
	312-07.250	7-1/4	7-7/8	5/16	.344	7.875	7.873	7.250	7.250	7.252	7.875
	312-07.250-625			5/8	.688						
	312-07.375	7-3/8	8	5/16	.344	8.000	7.996	7.375	7.375	7.377	8.000
312-07.375-625	5/8			.688							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
3/8"	Tolerance Limits				+0.010 -0.000	+0.004 -0.000	+0.000 -0.002	+0.000 -0.005	+0.000 -0.002	+0.004 -0.000	+0.005 -0.000
	375-00.500	1/2	1-1/4	3/8	.413	1.250	1.248	.500	.500	.502	1.250
	375-00.500-625			5/8	.688						
	375-00.562	9/16	1-5/16	3/8	.413	1.312	1.310	.562	.562	.564	1.312
	375-00.562-625			5/8	.688						
	375-00.625	5/8	1-3/8	3/8	.413	1.375	1.373	.625	.625	.627	1.375
	375-00.625-625			5/8	.688						
	375-00.687	11/16	1-7/16	3/8	.413	1.437	1.435	.687	.687	.689	1.437
	375-00.687-625			5/8	.688						
	375-00.750	3/4	1-1/2	3/8	.413	1.500	1.498	.750	.750	.752	1.500
	375-00.750-625			5/8	.688						
	375-00.812	13/16	1-9/16	3/8	.413	1.562	1.560	.812	.812	.814	1.562
	375-00.812-625			5/8	.688						
	375-00.875	7/8	1-5/8	3/8	.413	1.625	1.623	.875	.875	.877	1.625
	375-00.875-625			5/8	.688						
	375-00.937	15/16	1-11/16	3/8	.413	1.687	1.685	.937	.937	.939	1.687
	375-00.937-625			5/8	.688						
	375-01.000	1	1-3/4	3/8	.413	1.750	1.748	1.000	1.000	1.002	1.750
	375-01.000-625			5/8	.688						
	375-01.062	1-1/16	1-13/16	3/8	.413	1.812	1.810	1.062	1.062	1.064	1.812
	375-01.062-625			5/8	.688						
	375-01.125	1-1/8	1-7/8	3/8	.413	1.875	1.873	1.125	1.125	1.127	1.875
	375-01.125-625			5/8	.688						
	375-01.187	1-3/16	1-15/16	3/8	.413	1.937	1.935	1.187	1.187	1.189	1.937
	375-01.187-625			5/8	.688						
	375-01.250	1-1/4	2	3/8	.413	2.000	1.998	1.250	1.250	1.252	2.000
	375-01.250-625			5/8	.688						
	375-01.312	1-5/16	2-1/16	3/8	.413	2.062	2.060	1.312	1.312	1.314	2.062
	375-01.312-625			5/8	.688						
	375-01.375	1-3/8	2-1/8	3/8	.413	2.125	2.123	1.375	1.375	1.377	2.125
	375-01.375-625			5/8	.688						
	375-01.437	1-7/16	2-3/16	3/8	.413	2.187	2.185	1.437	1.437	1.439	2.187
	375-01.437-625			5/8	.688						
	375-01.500	1-1/2	2-1/4	3/8	.413	2.250	2.248	1.500	1.500	1.502	2.250
	375-01.500-625			5/8	.688						
	375-01.625	1-5/8	2-3/8	3/8	.413	2.375	2.373	1.625	1.625	1.627	2.375
	375-01.625-625			5/8	.688						
	375-01.750	1-3/4	2-1/2	3/8	.413	2.500	2.498	1.750	1.750	1.752	2.500
	375-01.750-625			5/8	.688						
	375-01.875	1-7/8	2-5/8	3/8	.413	2.625	2.623	1.875	1.875	1.877	2.625
	375-01.875-625			5/8	.688						
	375-02.000	2	2-3/4	3/8	.413	2.750	2.748	2.000	2.000	2.002	2.750
	375-02.000-625			5/8	.688						
	375-02.125	2-1/8	2-7/8	3/8	.413	2.875	2.873	2.125	2.125	2.127	2.875
	375-02.125-625			5/8	.688						
	375-02.250	2-1/4	3	3/8	.413	3.000	2.998	2.250	2.250	2.252	3.000
	375-02.250-625			5/8	.688						
	375-02.375	2-3/8	3-1/8	3/8	.413	3.125	3.123	2.375	2.375	2.377	3.125
	375-02.375-625			5/8	.688						
	375-02.500	2-1/2	3-1/4	3/8	.413	3.250	3.248	2.500	2.500	2.502	3.250
	375-02.500-625			5/8	.688						
	375-02.625	2-5/8	3-3/8	3/8	.413	3.375	3.373	2.625	2.625	2.627	3.375
375-02.625-625	5/8			.688							
375-02.750	2-3/4	3-1/2	3/8	.413	3.500	3.498	2.750	2.750	2.752	3.500	
375-02.750-625			5/8	.688							
375-02.875	2-7/8	3-5/8	3/8	.413	3.625	3.623	2.875	2.875	2.877	3.625	
375-02.875-625			5/8	.688							
375-03.000	3	3-3/4	3/8	.413	3.750	3.748	3.000	3.000	3.002	3.750	
375-03.000-625			5/8	.688							
375-03.125	3-1/8	3-7/8	3/8	.413	3.875	3.873	3.125	3.125	3.127	3.875	
375-03.125-625			5/8	.688							
375-03.250	3-1/4	4	3/8	.413	4.000	3.998	3.250	3.250	3.252	4.000	
375-03.250-625			5/8	.688							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
3/8"	Tolerance Limits				+ .010 - .000	+ .004 - .000	+ .000 - .002	+ .000 - .005	+ .000 - .002	+ .004 - .000	+ .005 - .000
	375-03.375	3-3/8	4-1/8	3/8	.413	4.125	4.123	3.375	3.375	3.377	4.125
	375-03.375-625			5/8	.688						
	375-03.500	3-1/2	4-1/4	3/8	.413	4.250	4.248	3.500	3.500	3.502	4.250
	375-03.500-625			5/8	.688						
	375-03.625	3-5/8	4-3/8	3/8	.413	4.375	4.373	3.625	3.625	3.627	4.375
	375-03.625-625			5/8	.688						
	375-03.750	2-3/4	4-1/2	3/8	.413	4.500	4.498	3.750	3.750	3.752	4.500
	375-03.750-625			5/8	.688						
	375-03.875	3-7/8	4-5/8	3/8	.413	4.625	4.623	3.875	3.875	3.877	4.625
	375-03.875-625			5/8	.688						
	375-04.000	4	4-3/4	3/8	.413	4.750	4.748	4.000	4.000	4.002	4.750
	375-04.000-625			5/8	.688						
	375-04.125	4-1/8	4-7/8	3/8	.413	4.875	4.873	4.125	4.125	4.127	4.875
	375-04.125-625			5/8	.688						
	375-04.250	4-1/4	5	3/8	.413	5.000	4.998	4.250	4.250	4.252	5.000
	375-04.250-625			5/8	.688						
	375-04.375	4-3/8	5-1/8	3/8	.413	5.125	5.123	4.375	4.375	4.377	5.125
	375-04.375-625			5/8	.688						
	375-04.500	4-1/2	5-1/4	3/8	.413	5.250	5.248	4.500	4.500	4.502	5.250
	375-04.500-625			5/8	.688						
	375-04.625	4-5/8	5-3/8	3/8	.413	5.375	5.373	4.625	4.625	4.627	5.375
	375-04.625-625			5/8	.688						
	375-04.750	4-3/4	5-1/2	3/8	.413	5.500	5.498	4.750	4.750	4.752	5.500
	375-04.750-625			5/8	.688						
	375-04.875	4-7/8	5-5/8	3/8	.413	5.625	5.623	4.875	4.875	4.877	5.625
	375-04.875-625			5/8	.688						
	375-05.000	5	5-3/4	3/8	.413	5.750	5.748	5.000	5.000	5.002	5.750
	375-05.000-625			5/8	.688						
	375-05.125	5-1/8	5-7/8	3/8	.413	5.875	5.873	5.125	5.125	5.127	5.875
	375-05.125-625			5/8	.688						
	375-05.250	5-1/4	6	3/8	.413	6.000	5.998	5.250	5.250	5.252	6.000
	375-05.250-625			5/8	.688						
	375-05.375	5-3/8	6-1/8	3/8	.413	6.125	6.123	5.375	5.375	5.377	6.125
	375-05.375-625			5/8	.688						
	375-05.500	5-1/2	6-1/4	3/8	.413	6.250	6.248	5.500	5.500	5.502	6.250
	375-05.500-625			5/8	.688						
	375-05.625	5-5/8	6-3/8	3/8	.413	6.375	6.373	5.625	5.625	5.627	6.375
	375-05.625-625			5/8	.688						
	375-05.750	5-3/4	6-1/2	3/8	.413	6.500	6.498	5.750	5.750	5.752	6.500
	375-05.750-625			5/8	.688						
	375-05.875	5-7/8	6-5/8	3/8	.413	6.625	6.623	5.875	5.875	5.877	6.625
	375-05.875-625			5/8	.688						
	375-06.000	6	6-3/4	3/8	.413	6.750	6.748	6.000	6.000	6.002	6.750
	375-06.000-625			5/8	.688						
	375-06.250	6-1/4	7	3/8	.413	7.000	6.998	6.250	6.250	6.252	7.000
	375-06.250-625			5/8	.688						
	375-06.500	6-1/2	7-1/4	3/8	.413	7.250	7.248	6.500	6.500	6.502	7.250
	375-06.500-625			5/8	.688						
	375-06.750	6-3/4	7-1/2	3/8	.413	7.500	7.498	6.750	6.750	6.752	7.500
	375-06.750-625			5/8	.688						
	375-07.000	7	7-3/4	3/8	.413	7.750	7.748	7.000	7.000	7.002	7.750
375-07.000-625	5/8			.688							

**HPS U-CUP FAMILY**

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/2"	Tolerance Limits				+0.010 -0.000	+0.005 -0.000	+0.000 -0.003	+0.000 -0.007	+0.000 -0.003	+0.005 -0.000	+0.007 -0.000
	500-01.000	1	2	1/2	.550	2.000	1.998	1.000	1.000	1.002	2.000
	500-01.000-750			3/4	.825						
	500-01.250	1-1/4	2-1/4	1/2	.550	2.250	2.248	1.250	1.250	1.252	2.250
	500-01.250-750			3/4	.825						
	500-01.375	1-3/8	2-3/8	1/2	.550	2.375	2.373	1.375	1.375	1.377	2.375
	500-01.375-750			3/4	.825						
	500-01.500	1-1/2	2-1/2	1/2	.550	2.500	2.498	1.500	1.500	1.502	2.500
	500-01.500-750			3/4	.825						
	500-01.750	1-3/4	2-3/4	1/2	.550	2.750	2.748	1.750	1.750	1.752	2.750
	500-01.750-750			3/4	.825						
	500-02.000	2	3	1/2	.550	3.000	2.998	2.000	2.000	2.002	3.000
	500-02.000-750			3/4	.825						
	500-02.250	2-1/4	3-1/4	1/2	.550	3.250	3.248	2.250	2.250	2.252	3.250
	500-02.250-750			3/4	.825						
	500-02.375	2-3/8	3-3/8	1/2	.550	3.375	3.373	2.375	2.375	2.377	3.375
	500-02.375-750			3/4	.825						
	500-02.500	2-1/2	3-1/2	1/2	.550	3.500	3.498	2.500	2.500	2.502	3.500
	500-02.500-750			3/4	.825						
	500-02.750	2-3/4	3-3/4	1/2	.550	3.750	3.748	2.750	2.750	2.752	3.750
	500-02.750-750			3/4	.825						
	500-03.000	3	4	1/2	.550	4.000	3.998	3.000	3.000	3.002	4.000
	500-03.000-750			3/4	.825						
	500-03.250	3-1/4	4-1/4	1/2	.550	4.250	4.248	3.250	3.250	3.252	4.250
	500-03.250-750			3/4	.825						
	500-03.500	3-1/2	4-1/2	1/2	.550	4.500	4.498	3.500	3.500	3.502	4.500
	500-03.500-750			3/4	.825						
	500-03.750	3-3/4	4-3/4	1/2	.550	4.750	4.748	3.750	3.750	3.752	4.750
	500-03.750-750			3/4	.825						
	500-04.000	4	5	1/2	.550	5.000	4.998	4.000	4.000	4.002	5.000
	500-04.000-750			3/4	.825						
	500-04.250	4-1/4	5-1/4	1/2	.550	5.250	5.248	4.250	4.250	4.252	5.250
	500-04.250-750			3/4	.825						
	500-04.375	4-3/8	5-3/8	1/2	.550	5.375	5.373	4.375	4.375	4.377	5.375
	500-04.375-750			3/4	.825						
	500-04.500	4-1/2	5-1/2	1/2	.550	5.500	5.498	4.500	4.500	4.502	5.500
	500-04.500-750			3/4	.825						
	500-04.750	4-3/4	5-3/4	1/2	.550	5.750	5.748	4.750	4.750	4.752	5.750
	500-04.750-750			3/4	.825						
	500-05.000	5	6	1/2	.550	6.000	5.998	5.000	5.000	5.002	6.000
	500-05.000-750			3/4	.825						
	500-05.250	5-1/4	6-1/4	1/2	.550	6.250	6.248	5.250	5.250	5.252	6.250
	500-05.250-750			3/4	.825						
	500-05.375	5-3/8	6-3/8	1/2	.550	6.375	6.373	5.375	5.375	5.377	6.375
	500-05.375-750			3/4	.825						
	500-05.500	5-1/2	6-1/2	1/2	.550	6.500	6.498	5.500	5.500	5.502	6.500
	500-05.500-750			3/4	.825						
	500-05.750	5-3/4	6-3/4	1/2	.550	6.750	6.748	5.750	5.750	5.752	6.750
	500-05.750-750			3/4	.825						
	500-06.000	6	7	1/2	.550	7.000	6.998	6.000	6.000	6.002	7.000
	500-06.000-750			3/4	.825						
	500-06.250	6-1/4	7-1/4	1/2	.550	7.250	7.248	6.250	6.250	6.252	7.250
500-06.250-750	3/4			.825							
500-06.500	6-1/2	7-1/2	1/2	.550	7.500	7.498	6.500	6.500	6.502	7.500	
500-06.500-750			3/4	.825							
500-06.750	6-3/4	7-3/4	1/2	.550	7.750	7.748	6.750	6.750	6.752	7.750	
500-06.750-750			3/4	.825							
500-07.000	7	8	1/2	.550	8.000	7.998	7.000	7.000	7.002	8.000	
500-07.000-750			3/4	.825							
500-07.250	7-1/4	8-1/4	1/2	.550	8.250	8.248	7.250	7.250	7.252	8.250	
500-07.250-750			3/4	.825							
500-07.500	7-1/2	8-1/2	1/2	.550	8.500	8.498	7.500	7.500	7.502	8.500	
500-07.500-750			3/4	.825							

### HPS U-CUP FAMILY

C/S (WIDTH)	PART NUMBER	NOM ID	NOM OD	NOM DEPTH	GROOVE DEPTH A	PISTON APPLICATION			ROD APPLICATION		
						BORE B	PISTON C	GROOVE D	ROD E	THROAT F	GROOVE G
1/2"	Tolerance Limits				+0.010 -0.000	+0.005 -0.000	+0.000 -0.003	+0.000 -0.007	+0.000 -0.003	+0.005 -0.000	+0.007 -0.000
	500-07.750	7-3/4	8-3/4	1/2	.550	8.750	8.748	7.750	7.750	7.752	8.750
	500-07.750-750			3/4	.825						
	500-08.000	8	9	1/2	.550	9.000	8.998	8.000	8.000	8.002	9.000
	500-08.000-750			3/4	.825						
	500-08.250	8-1/4	9-1/4	1/2	.550	9.250	9.248	8.250	8.250	8.252	9.250
	500-08.250-750			3/4	.825						
	500-08.500	8-1/2	9-1/2	1/2	.550	9.500	9.498	8.500	8.500	8.502	9.500
	500-08.500-750			3/4	.825						
	500-08.750	8-3/4	9-3/4	1/2	.550	9.750	9.748	8.750	8.750	8.752	9.750
	500-08.750-750			3/4	.825						
	500-09.000	9	10	1/2	.550	10.000	9.998	9.000	9.000	9.002	10.000
	500-09.000-750			3/4	.825						
	500-09.250	9-1/4	10-1/4	1/2	.550	10.250	10.248	9.250	9.250	9.252	10.250
	500-09.250-750			3/4	.825						
	500-09.500	9-1/2	10-1/2	1/2	.550	10.500	10.498	9.500	9.500	9.502	10.500
	500-09.500-750			3/4	.825						
	500-09.750	9-3/4	10-3/4	1/2	.550	10.750	10.748	9.750	9.750	9.752	10.750
	500-09.750-750			3/4	.825						
	500-10.000	10	11	1/2	.550	11.000	10.998	10.000	10.000	10.002	11.000
	500-10.000-750			3/4	.825						
	500-10.500	10-1/2	11-1/2	1/2	.550	11.500	11.498	10.500	10.500	10.502	11.500
	500-10.500-750			3/4	.825						
	500-11.000	11	12	1/2	.550	12.000	11.998	11.000	11.000	11.002	12.000
	500-11.000-750			3/4	.825						
	500-11.500	11-1/2	12-1/2	1/2	.550	12.500	12.498	11.500	11.500	11.502	12.500
	500-11.500-750			3/4	.825						
	500-12.000	12	13	1/2	.550	13.000	12.998	12.000	12.000	12.002	13.000
	500-12.000-750			3/4	.825						
	500-12.500	12-1/2	13-1/2	1/2	.550	13.500	13.498	12.500	12.500	12.502	13.500
	500-12.500-750			3/4	.825						
	500-13.000	13	14	1/2	.550	14.000	13.998	13.000	13.000	13.002	14.000
	500-13.000-750			3/4	.825						
	500-13.500	13-1/2	14-1/2	1/2	.550	14.500	14.498	13.500	13.500	13.502	14.500
	500-13.500-750			3/4	.825						
	500-14.000	14	15	1/2	.550	15.000	14.998	14.000	14.000	14.002	15.000
	500-14.000-750			3/4	.825						
	500-14.500	14-1/2	15-1/2	1/2	.550	15.500	15.498	14.500	14.500	14.502	15.500
	500-14.500-750			3/4	.825						
	500-15.000	15	16	1/2	.550	16.000	15.998	15.000	15.000	15.002	16.000
	500-15.000-750			3/4	.825						