

## FLANGE OR FACE SEAL GROOVE DESIGN

AS568 Series	O-Ring Cross-Section		Gland Depth (D)	Squeeze		Gland Width (W) Liquids		Gland Width (W) Vacuum & Gases		Gland Corner Radii	
	Dash Number	Nominal	TOL (+/-)	Depth	Actual	Percent	Nominal	TOL (+/-)	Nominal	TOL (+/-)	R1
0	0.07	0.003	.055-.057	.010-.018	15%-25%	0.103	0.002	0.084	0.003	0.01	0.005
-100	0.103	0.004	.088-.090	.010-.018	10%-17%	0.14	0.003	0.121	0.003	0.01	0.005
-200	0.139	0.004	.121-.123	.012-.022	9%-16%	0.18	0.003	0.16	0.003	0.018	0.005
-300	0.21	0.005	.185-.188	.017-.030	8%-14%	0.28	0.003	0.24	0.003	0.028	0.005
-400	0.275	0.006	.237-.240	.029-.044	11%-16%	0.352	0.003	0.31	0.003	0.028	0.005

## DYNAMIC GLAND GROOVE DESIGN

AS568 Series	O-Ring Cross-Section		Gland Depth (D)	Squeeze		Gland Width (W) Liquids				Gap (H)		Gland Corner Radii
	Dash Number	Nominal	TOL (+/-)	Depth	Actual	Percent	Nominal	TOL (+/-)	Ring	Rings	MAX	R1
0	0.07	0.003	.050-.052	.015-.023	22%-32%	0.095	0.002	0.14	0.207	0.002	0.007	0.005
-100	0.103	0.004	.081-.083	.017-.025	17%-24%	0.142	0.003	0.173	0.24	0.002	0.007	0.005
-200	0.139	0.004	.111-.113	.022-.032	16%-23%	0.189	0.003	0.21	0.277	0.002	0.017	0.005
-300	0.21	0.005	.170-.173	.032-.045	15%-21%	0.283	0.003	0.313	0.412	0.003	0.027	0.005
-400	0.275	0.006	.226-.229	.040-.055	15%-20%	0.377	0.003	0.41	0.54	0.003	0.027	0.005

## DOVETAIL FACE SEAL GROOVE DESIGN

AS568 Series	O-Ring Cross-Section		Gland Depth (D)	Squeeze		Gland Width (W)				Gap (H)	Gland Corner Radii	
	Dash Number	Nominal	TOL (+/-)	Depth	Actual	Percent	Nominal	TOL (+/-)	Ring	Rings	MAX	R1
0	0.07	0.003	.055-.057	.010-.018	15%-25%	0.095	0.002	0.14	0.207	0.002	0.007	0.005
-100	0.103	0.004	.088-.090	.010-.018	10%-17%	0.142	0.003	0.173	0.24	0.002	0.007	0.005
-200	0.139	0.004	.121-.123	.012-.022	9%-16%	0.189	0.003	0.21	0.277	0.002	0.017	0.005
-300	0.21	0.005	.185-.188	.017-.030	8%-14%	0.283	0.003	0.313	0.412	0.003	0.027	0.005
-400	0.275	0.006	.237-.240	.029-.044	11%-16%	0.377	0.003	0.41	0.54	0.003	0.027	0.005

AS568A O-Rings		Nominal Inch Dimensions			Actual Inch Dimensions				Actual Millimeter Dimensions			
Macro Seal Size	AS568A Size	Nominal I.D.	Nominal O.D.	Nominal Width	Actual I.D.	Tolerance +/- I.D.	Actual Width	Tolerance +/- Width	Actual MM I.D.	Tolerance MM +/- I.D.	Actual MM Width	Tolerance MM +/- Width
2-001	-001	1/32	3/32	1/32	.029	.004	.040	.003	0,74	0,10	1,02	0,08
2-002	-002	3/64	9/64	3/64	.042	.004	.050	.003	1,07	0,10	1,27	0,08
2-003	-003	1/16	3/16	1/16	.056	.004	.060	.003	1,42	0,10	1,52	0,08
2-004	-004	5/64	13/64	1/16	.070	.005	.070	.003	1,78	0,13	1,78	0,08
2-005	-005	3/32	7/32	1/16	.101	.005	.070	.003	2,57	0,13	1,78	0,08
2-006	-006	1/8	1/4	1/32	.114	.005	.070	.003	2,90	0,13	1,78	0,08
2-007	-007	5/32	9/32	3/64	.145	.005	.070	.003	3,68	0,13	1,78	0,08
2-008	-008	3/16	5/16	1/16	.176	.005	.070	.003	4,47	0,13	1,78	0,08
2-009	-009	7/32	11/32	1/16	.208	.005	.070	.003	5,28	0,13	1,78	0,08
2-010	-010	1/4	3/8	1/16	.239	.005	.070	.003	6,07	0,13	1,78	0,08
2-011	-011	5/16	7/16	1/16	.301	.005	.070	.003	7,65	0,13	1,78	0,08
2-012	-012	3/8	1/2	1/16	.364	.005	.070	.003	9,25	0,13	1,78	0,08
2-013	-013	7/16	9/16	1/16	.426	.005	.070	.003	10,82	0,13	1,78	0,08
2-014	-014	1/2	5/8	1/16	.489	.005	.070	.003	12,42	0,13	1,78	0,08
2-015	-015	9/16	11/16	1/16	.551	.007	.070	.003	14,00	0,18	1,78	0,08
2-016	-016	5/8	3/4	1/16	.614	.009	.070	.003	15,60	0,23	1,78	0,08
2-017	-017	11/16	13/16	1/16	.676	.009	.070	.003	17,17	0,23	1,78	0,08
2-018	-018	3/4	7/8	1/16	.739	.009	.070	.003	18,77	0,23	1,78	0,08
2-019	-019	13/16	15/16	1/16	.801	.009	.070	.003	20,35	0,23	1,78	0,08
2-020	-020	7/8	1	1/16	.864	.009	.070	.003	21,95	0,23	1,78	0,08
2-021	-021	15/16	1 1/16	1/16	.926	.009	.070	.003	23,52	0,23	1,78	0,08
2-022	-022	1	1/8	1/16	.989	.010	.070	.003	25,12	0,25	1,78	0,08
2-023	-023	1 1/16	1 3/16	1/16	1.051	.010	.070	.003	26,70	0,25	1,78	0,08
2-024	-024	1 1/8	1 1/4	1/16	1.114	.010	.070	.003	28,30	0,25	1,78	0,08
2-025	-025	1 3/16	1 5/16	1/16	1.176	.011	.070	.003	29,87	0,28	1,78	0,08
2-026	-026	1 1/4	1 3/8	1/16	1.239	.011	.070	.003	31,47	0,28	1,78	0,08
2-027	-027	1 5/16	1 7/16	1/16	1.301	.011	.070	.003	33,05	0,28	1,78	0,08
2-028	-028	1 3/8	1 1/2	1/16	1.364	.013	.070	.003	34,65	0,33	1,78	0,08
2-029	-029	1 1/2	1 5/8	1/16	1.489	.013	.070	.003	37,82	0,33	1,78	0,08

2-030	-030	1 5/8	1 3/4	1/16	1.614	.013	.070	.003	41,00	0,33	1,78	0,08
2-031	-031	1 3/4	1 7/8	1/16	1.739	.015	.070	.003	44,17	0,38	1,78	0,08
2-032	-032	1 7/8	2	1/16	1.864	.015	.070	.003	47,35	0,38	1,78	0,08
2-033	-033	2	2 1/8	1/16	1.989	.018	.070	.003	50,52	0,46	1,78	0,08
2-034	-034	2 1/8	2 1/4	1/16	2.114	.018	.070	.003	53,7	0,46	1,78	0,08
2-035	-035	2 1/4	2 3/8	1/16	2.239	.018	.070	.003	56,87	0,46	1,78	0,08
2-036	-036	2 3/8	2 1/2	1/16	2.364	.018	.070	.003	60,05	0,46	1,78	0,08
2-037	-037	2 1/2	2 5/8	1/16	2.489	.018	.070	.003	63,22	0,46	1,78	0,08
2-038	-038	2 5/8	2 3/4	1/16	2.614	.020	.070	.003	66,40	0,51	1,78	0,08
2-039	-039	2 3/4	2 7/8	1/16	2.739	.020	.070	.003	69,57	0,51	1,78	0,08
2-040	-040	2 7/8	3	1/16	2.864	.020	.070	.003	72,75	0,51	1,78	0,08
2-041	-041	3	3 1/8	1/16	2.989	.024	.070	.003	75,92	0,61	1,78	0,08
2-042	-042	3 1/4	3 3/8	1/16	3.239	.024	.070	.003	82,27	0,61	1,78	0,08
2-043	-043	3 1/2	3 5/8	1/16	3.489	.024	.070	.003	88,62	0,61	1,78	0,08
2-044	-044	3 3/4	3 7/8	1/16	3.739	.027	.070	.003	94,97	0,69	1,78	0,08
2-045	-045	4	4 1/8	1/16	3.989	.027	.070	.003	101,32	0,69	1,78	0,08
2-046	-046	4 1/4	4 3/8	1/16	4.239	.030	.070	.003	107,67	0,76	1,78	0,08
2-047	-047	4 1/2	4 5/8	1/16	4.489	.030	.070	.003	114,02	0,76	1,78	0,08
2-048	-048	4 3/4	4 7/8	1/16	4.739	.030	.070	.003	120,37	0,76	1,78	0,08
2-049	-049	5	5 1/8	1/16	4.989	.037	.070	.003	126,72	0,94	1,78	0,08
2-050	-050	5 1/4	5 3/8	1/16	5.239	.037	.070	.003	133,07	0,94	1,78	0,08
2-102	-102	1/16	1/4	3/32	.049	.005	.103	.003	1,24	0,13	2,62	0,08
2-103	-103	3/32	9/32	3/32	.081	.005	.103	.003	2,06	0,13	2,62	0,08
2-104	-104	1/8	5/16	3/32	.112	.005	.103	.003	2,84	0,13	2,62	0,08
2-105	-105	5/32	11/32	3/32	.143	.005	.103	.003	3,63	0,13	2,62	0,08
2-106	-106	3/16	3/8	3/32	.174	.005	.103	.003	4,42	0,13	2,62	0,08
2-107	-107	7/32	13/32	3/32	.206	.005	.103	.003	5,23	0,13	2,62	0,08
2-108	-108	1/4	7/16	3/32	.237	.005	.103	.003	6,02	0,13	2,62	0,08
2-109	-109	5/16	1/2	3/32	.299	.005	.103	.003	7,59	0,13	2,62	0,08
2-110	-110	3/8	9/16	3/32	.362	.005	.103	.003	9,19	0,13	2,62	0,08
2-111	-111	7/16	5/8	3/32	.424	.005	.103	.003	10,77	0,13	2,62	0,08

2-112	-112	1/2	11/16	3/32	.487	.005	.103	.003	12,37	0,13	2,62	0,08
2-113	-113	9/16	3/4	3/32	.549	.007	.103	.003	13,94	0,18	2,62	0,08
2-114	-114	5/8	13/16	3/32	.612	.009	.103	.003	15,54	0,23	2,62	0,08
2-115	-115	11/16	7/8	3/32	.674	.009	.103	.003	17,12	0,23	2,62	0,08
2-116	-116	3/4	15/16	3/32	.737	.009	.103	.003	18,72	0,23	2,62	0,08
2-117	-117	13/16	1	3/32	.799	.010	.103	.003	20,29	0,25	2,62	0,08
2-118	-118	7/8	1 1/16	3/32	.862	.010	.103	.003	21,89	0,25	2,62	0,08
2-119	-119	15/16	1 1/8	3/32	.924	.010	.103	.003	23,47	0,25	2,62	0,08
2-120	-120	1	1 3/16	3/32	.987	.010	.103	.003	25,07	0,25	2,62	0,08
2-121	-121	1 1/16	1 1/4	3/32	1.049	.010	.103	.003	26,64	0,25	2,62	0,08
2-122	-122	1 1/8	1 5/16	3/32	1.112	.010	.103	.003	28,24	0,25	2,62	0,08
2-123	-123	1 3/16	1 3/8	3/32	1.174	.012	.103	.003	29,82	0,3	2,62	0,08
2-124	-124	1 1/4	1 7/16	3/32	1.237	.012	.103	.003	31,42	0,3	2,62	0,08
2-125	-125	1 5/16	1 1/2	3/32	1.299	.012	.103	.003	32,99	0,3	2,62	0,08
2-126	-126	1 3/8	1 9/16	3/32	1.362	.012	.103	.003	34,59	0,3	2,62	0,08
2-127	-127	1 7/16	1 5/8	3/32	1.424	.012	.103	.003	36,17	0,3	2,62	0,08
2-128	-128	1 1/2	1 11/16	3/32	1.487	.012	.103	.003	37,77	0,3	2,62	0,08
2-129	-129	1 9/16	1 3/4	3/32	1.549	.015	.103	.003	39,34	0,38	2,62	0,08
2-130	-130	1 5/8	1 13/16	3/32	1.612	.015	.103	.003	40,94	0,38	2,62	0,08
2-131	-131	1 11/16	1 7/8	3/32	1.674	.015	.103	.003	42,52	0,38	2,62	0,08
2-132	-132	1 3/4	1 15/16	3/32	1.737	.015	.103	.003	44,12	0,38	2,62	0,08
2-133	-133	1 13/16	2	3/32	1.799	.015	.103	.003	45,69	0,38	2,62	0,08
2-134	-134	1 7/8	2 1/16	3/32	1.862	.015	.103	.003	47,29	0,38	2,62	0,08
2-135	-135	1 15/16	2 1/8	3/32	1.925	.017	.103	.003	48,9	0,43	2,62	0,08
2-136	-136	2	2 3/16	3/32	1.987	.017	.103	.003	50,47	0,43	2,62	0,08
2-137	-137	2 1/16	2 1/4	3/32	2.050	.017	.103	.003	52,07	0,43	2,62	0,08
2-138	-138	2 1/8	2 5/16	3/32	2.112	.017	.103	.003	53,64	0,43	2,62	0,08
2-139	-139	2 3/16	2 3/8	3/32	2.175	.017	.103	.003	55,25	0,43	2,62	0,08
2-140	-140	2 1/4	2 7/16	3/32	2.237	.017	.103	.003	56,82	0,43	2,62	0,08
2-141	-141	2 5/16	2 1/2	3/32	2.300	.020	.103	.003	58,42	0,51	2,62	0,08
2-142	-142	2 3/8	2 9/16	3/32	2.362	.020	.103	.003	59,99	0,51	2,62	0,08
2-143	-143	2 7/16	2 5/8	3/32	2.425	.020	.103	.003	61,6	0,51	2,62	0,08

2-144	-144	2 1/2	2 11/16	3/32	2.487	.020	.103	.003	63,17	0,51	2,62	0,08
2-145	-145	2 9/16	2 3/4	3/32	2.550	.020	.103	.003	64,77	0,51	2,62	0,08
2-146	-146	2 5/8	2 13/16	3/32	2.612	.020	.103	.003	66,34	0,51	2,62	0,08
2-147	-147	2 11/16	2 7/8	3/32	2.675	.022	.103	.003	67,95	0,56	2,62	0,08
2-148	-148	2 3/4	2 15/16	3/32	2.737	.022	.103	.003	69,52	0,56	2,62	0,08
2-149	-149	2 13/16	3	3/32	2.800	.022	.103	.003	71,12	0,56	2,62	0,08
2-150	-150	2 7/8	3 1/16	3/32	2.862	.022	.103	.003	72,69	0,56	2,62	0,08
2-151	-151	3	3 3/16	3/32	2.987	.024	.103	.003	75,87	0,61	2,62	0,08
2-152	-152	3 1/4	3 7/16	3/32	3.237	.024	.103	.003	82,22	0,61	2,62	0,08
2-153	-153	3 1/2	3 11/16	3/32	3.487	.024	.103	.003	88,57	0,61	2,62	0,08
2-154	-154	3 3/4	3 15/16	3/32	3.737	.028	.103	.003	94,92	0,71	2,62	0,08
2-155	-155	4	4 3/16	3/32	3.987	.028	.103	.003	101,27	0,71	2,62	0,08
2-156	-156	4 1/4	4 7/16	3/32	4.237	.030	.103	.003	107,62	0,76	2,62	0,08
2-157	-157	4 1/2	4 11/16	3/32	4.487	.030	.103	.003	113,97	0,76	2,62	0,08
2-158	-158	4 3/4	4 15/16	3/32	4.737	.030	.103	.003	120,32	0,76	2,62	0,08
2-159	-159	5	5 3/16	3/32	4.987	.035	.103	.003	126,67	0,89	2,62	0,08
2-160	-160	5 1/4	5 7/16	3/32	5.237	.035	.103	.003	133,02	0,89	2,62	0,08
2-161	-161	5 1/2	5 11/16	3/32	5.487	.035	.103	.003	139,37	0,89	2,62	0,08
2-162	-162	5 3/4	5 15/16	3/32	5.737	.035	.103	.003	145,72	0,89	2,62	0,08
2-163	-163	6	6 3/16	3/32	5.987	.035	.103	.003	152,07	0,89	2,62	0,08
2-164	-164	6 1/4	6 7/16	3/32	6.237	.040	.103	.003	158,42	1,02	2,62	0,08
2-102	-165	6 1/2	6 11/16	3/32	6.487	.040	.103	.003	164,77	1,02	2,62	0,08
2-166	-166	6 3/4	6 15/16	3/32	6.737	.040	.103	.003	171,12	1,02	2,62	0,08
2-167	-167	7	7 3/16	3/32	6.987	.040	.103	.003	177,47	1,02	2,62	0,08
2-168	-168	7 1/4	7 7/16	3/32	7.237	.045	.103	.003	183,82	1,14	2,62	0,08
2-169	-169	7 1/2	7 11/16	3/32	7.487	.045	.103	.003	190,17	1,14	2,62	0,08
2-170	-170	7 3/4	7 15/16	3/32	7.737	.045	.103	.003	196,52	1,14	2,62	0,08
2-171	-171	8	8 3/16	3/32	7.987	.045	.103	.003	202,87	1,14	2,62	0,08
2-172	-172	8 1/4	8 7/16	3/32	8.237	.050	.103	.003	209,22	1,27	2,62	0,08
2-173	-173	8 1/2	8 11/16	3/32	8.487	.050	.103	.003	215,57	1,27	2,62	0,08
2-174	-174	8 3/4	8 15/16	3/32	8.737	.050	.103	.003	221,92	1,27	2,62	0,08
2-175	-175	9	9 3/16	3/32	8.987	.050	.103	.003	228,27	1,27	2,62	0,08

2-176	-176	9 1/4	9 7/16	3/32	9.237	.055	.103	.003	234,62	1,4	2,62	0,08
2-177	-177	9 1/2	9 11/16	3/32	9.487	.055	.103	.003	240,97	1,4	2,62	0,08
2-178	-178	9 3/4	9 15/16	3/32	9.737	.055	.103	.003	247,32	1,4	2,62	0,08
2-201	-201	3/16	7/16	1/8	.171	.055	.139	.004	4,34	0,13	3,53	0,10
2-202	-202	1/4	1/2	1/8	.234	.005	.139	.004	5,94	0,13	3,53	0,10
2-203	-203	5/16	9/16	1/8	.296	.005	.139	.004	7,52	0,13	3,53	0,10
2-204	-204	3/8	5/8	1/8	.359	.005	.139	.004	9,12	0,13	3,53	0,10
2-205	-205	7/16	11/16	1/8	.421	.005	.139	.004	10,69	0,13	3,53	0,10
2-206	-206	1/2	3/4	1/8	.484	.005	.139	.004	12,29	0,13	3,53	0,10
2-207	-207	9/16	13/16	1/8	.546	.007	.139	.004	13,87	0,18	3,53	0,10
2-208	-208	5/8	7/8	1/8	.609	.009	.139	.004	15,47	0,23	3,53	0,10
2-209	-209	11/16	15/16	1/8	.671	.010	.139	.004	17,04	0,25	3,53	0,10
2-210	-210	3/4	1	1/8	.734	.010	.139	.004	18,64	0,25	3,53	0,10
2-211	-211	13/16	1 1/16	1/8	.796	.010	.139	.004	20,22	0,25	3,53	0,10
2-212	-212	7/8	1 1/8	1/8	.859	.010	.139	.004	21,82	0,25	3,53	0,10
2-213	-213	15/16	1 3/16	1/8	.921	.010	.139	.004	23,39	0,25	3,53	0,10
2-214	-214	1	1 1/4	1/8	.984	.010	.139	.004	24,99	0,25	3,53	0,10
2-215	-215	1 1/16	1 5/16	1/8	1.046	.010	.139	.004	26,57	0,25	3,53	0,10
2-216	-216	1 1/8	1 3/8	1/8	1.109	.012	.139	.004	28,17	0,3	3,53	0,10
2-217	-217	1 3/16	1 7/16	1/8	1.171	.012	.139	.004	29,74	0,3	3,53	0,10
2-218	-218	1 1/4	1 1/2	1/8	1.234	.012	.139	.004	31,34	0,3	3,53	0,10
2-219	-219	1 5/16	1 9/16	1/8	1.296	.012	.139	.004	32,92	0,3	3,53	0,10
2-220	-220	1 3/8	1 5/8	1/8	1.359	.012	.139	.004	34,52	0,3	3,53	0,10
2-221	-221	1 7/16	1 11/16	1/8	1.421	.012	.139	.004	36,09	0,3	3,53	0,10
2-222	-222	1 1/2	1 3/4	1/8	1.484	.015	.139	.004	37,69	0,38	3,53	0,10
2-223	-223	1 5/8	1 7/8	1/8	1.609	.015	.139	.004	40,87	0,38	3,53	0,10
2-224	-224	1 3/4	2	1/8	1.734	.015	.139	.004	44,04	0,38	3,53	0,10
2-225	-225	1 7/8	2 1/8	1/8	1.859	.018	.139	.004	47,22	0,46	3,53	0,10
2-226	-226	2	2 1/4	1/8	1.984	.018	.139	.004	50,39	0,46	3,53	0,10
2-227	-227	2 1/16	2 3/8	1/8	2.109	.018	.139	.004	53,57	0,46	3,53	0,10
2-228	-228	2 1/4	2 1/2	1/8	2.234	.020	.139	.004	56,74	0,51	3,53	0,10
2-229	-229	2 3/8	2 5/8	1/8	2.359	.020	.139	.004	59,92	0,51	3,53	0,10



2-261	-261	6 3/4	7	1/8	6.734	.040	.139	.004	171,04	1,02	3,53	0,10
2-262	-262	7	7 1/4	1/8	6.984	.040	.139	.004	177,39	1,02	3,53	0,10
2-263	-263	7 1/4	7 1/2	1/8	7.234	.045	.139	.004	183,74	1,14	3,53	0,10
2-264	-264	7 1/2	7 3/4	1/8	7.484	.045	.139	.004	190,09	1,14	3,53	0,10
2-265	-265	7 3/4	8	1/8	7.734	.045	.139	.004	196,44	1,14	3,53	0,10
2-266	-266	8	8 1/4	1/8	7.984	.045	.139	.004	202,79	1,14	3,53	0,10
2-267	-267	8 1/4	8 1/2	1/8	8.234	.050	.139	.004	209,14	1,27	3,53	0,10
2-268	-268	8 1/2	8 3/4	1/8	8.484	.050	.139	.004	215,49	1,27	3,53	0,10
2-269	-269	8 3/4	9	1/8	8.734	.050	.139	.004	221,84	1,27	3,53	0,10
2-270	-270	9	9 1/4	1/8	8.984	.050	.139	.004	228,19	1,27	3,53	0,10
2-271	-271	9 1/4	9 1/2	1/8	9.234	.055	.139	.004	234,54	1,4	3,53	0,10
2-272	-272	9 1/2	9 3/4	1/8	9.484	.055	.139	.004	240,89	1,4	3,53	0,10
2-273	-273	9 3/4	10	1/8	9.734	.055	.139	.004	247,24	1,4	3,53	0,10
2-274	-274	10	10 1/4	1/8	9.984	.055	.139	.004	253,59	1,4	3,53	0,10
2-275	-275	10 1/2	10 3/4	1/8	10.484	.055	.139	.004	266,29	1,4	3,53	0,10
2-276	-276	11	11 1/4	1/8	10.984	.065	.139	.004	278,99	1,65	3,53	0,10
2-277	-277	11 1/2	11 3/4	1/8	11.484	.065	.139	.004	291,69	1,65	3,53	0,10
2-278	-278	12	12 1/4	1/8	11.984	.065	.139	.004	304,39	1,65	3,53	0,10
2-279	-279	13	13 1/4	1/8	12.984	.065	.139	.004	329,79	1,65	3,53	0,10
2-280	-280	14	14 1/4	1/8	13.984	.065	.139	.004	355,19	1,65	3,53	0,10
2-281	-281	15	15 1/4	1/8	14.984	.065	.139	.004	380,59	1,65	3,53	0,10
2-282	-282	16	16 1/4	1/8	15.955	.075	.139	.004	405,26	1,91	3,53	0,10
2-283	-283	17	17 1/4	1/8	16.955	.080	.139	.004	430,66	2,03	3,53	0,10
2-284	-284	18	18 1/4	1/8	17.955	.085	.139	.004	456,06	2,16	3,53	0,10
2-309	-309	7/16	13/16	3/16	.412	.005	.210	.005	10,46	0,13	5,33	0,13
2-310	-310	1/2	7/8	3/16	.475	.005	.210	.005	12,07	0,13	5,33	0,13
2-311	-311	9/16	15/16	3/16	.537	.007	.210	.005	13,64	0,18	5,33	0,13
2-312	-312	5/8	1	3/16	.600	.009	.210	.005	15,24	0,23	5,33	0,13
2-313	-313	11/16	1 1/16	3/16	.662	.009	.210	.005	16,81	0,23	5,33	0,13
2-314	-314	3/4	1 1/8	3/16	.725	.010	.210	.005	18,42	0,25	5,33	0,13
2-315	-315	13/16	1 3/16	3/16	.787	.010	.210	.005	19,99	0,25	5,33	0,13
2-316	-316	7/8	1 1/4	3/16	.850	.010	.210	.005	21,59	0,25	5,33	0,13

2-317	-317	15/16	1 5/16	3/16	.912	.010	.210	.005	23,16	0,25	5,33	0,13
2-318	-318	1	1 3/8	3/16	.975	.010	.210	.005	24,77	0,25	5,33	0,13
2-319	-319	1 1/16	1 7/16	3/16	1.037	.010	.210	.005	26,34	0,25	5,33	0,13
2-320	-320	1 1/8	1 1/2	3/16	1.100	.012	.210	.005	27,94	0,3	5,33	0,13
2-321	-321	1 3/16	1 9/16	3/16	1.162	.012	.210	.005	29,51	0,3	5,33	0,13
2-322	-322	1 1/4	1 5/8	3/16	1.225	.012	.210	.005	31,12	0,3	5,33	0,13
2-323	-323	1 5/16	1 11/16	3/16	1.287	.012	.210	.005	32,69	0,3	5,33	0,13
2-324	-324	1 3/8	1 3/4	3/16	1.350	.012	.210	.005	34,29	0,3	5,33	0,13
2-325	-325	1 1/2	1 7/8	3/16	1.475	.015	.210	.005	37,47	0,38	5,33	0,13
2-326	-326	1 5/8	2	3/16	1.600	.015	.210	.005	40,64	0,38	5,33	0,13
2-327	-327	1 3/4	2 1/8	3/16	1.725	.015	.210	.005	43,82	0,38	5,33	0,13
2-328	-328	1 7/8	2 1/4	3/16	1.850	.015	.210	.005	46,99	0,38	5,33	0,13
2-329	-329	2	2 3/8	3/16	1.975	.018	.210	.005	50,17	0,46	5,33	0,13
2-330	-330	2 1/8	2 1/2	3/16	2.100	.018	.210	.005	53,34	0,46	5,33	0,13
2-331	-331	2 1/4	2 5/8	3/16	2.225	.018	.210	.005	56,52	0,46	5,33	0,13
2-332	-332	2 3/8	2 3/4	3/16	2.350	.018	.210	.005	59,69	0,46	5,33	0,13
2-333	-333	2 1/2	2 7/8	3/16	2.475	.210	.210	.005	62,87	5,33	5,33	0,13
2-334	-334	2 5/8	3	3/16	2.600	.210	.210	.005	66,04	5,33	5,33	0,13
2-335	-335	2 3/4	3 1/8	3/16	2.725	.210	.210	.005	69,22	5,33	5,33	0,13
2-336	-336	2 7/8	3 1/4	3/16	2.850	.210	.210	.005	72,39	5,33	5,33	0,13
2-337	-337	3	3 3/8	3/16	2.975	.210	.210	.005	75,57	5,33	5,33	0,13
2-338	-338	3 1/8	3 1/2	3/16	3.100	.024	.210	.005	78,74	0,61	5,33	0,13
2-339	-339	3 1/4	3 5/8	3/16	3.225	.024	.210	.005	81,92	0,61	5,33	0,13
2-340	-340	3 3/8	3 3/4	3/16	3.35	.024	.210	.005	85,09	0,61	5,33	0,13
2-341	-341	3 1/2	3 7/8	3/16	3.475	.024	.210	.005	88,27	0,61	5,33	0,13
2-342	-342	3 5/8	4	3/16	3.600	.028	.210	.005	91,44	0,71	5,33	0,13
2-343	-343	3 3/4	4 1/8	3/16	3.725	.028	.210	.005	94,62	0,71	5,33	0,13
2-344	-344	3 7/8	4 1/4	3/16	3.850	.028	.210	.005	97,79	0,71	5,33	0,13
2-345	-345	4	4 3/8	3/16	3.975	.028	.210	.005	100,97	0,71	5,33	0,13
2-346	-346	4 1/8	4 1/2	3/16	4.100	.028	.210	.005	104,14	0,71	5,33	0,13
2-347	-347	4 1/4	4 5/8	3/16	4.225	.030	.210	.005	107,32	0,76	5,33	0,13
2-348	-348	4 3/8	4 3/4	3/16	4.350	.030	.210	.005	110,49	0,76	5,33	0,13

2-349	-349	4 1/2	4 7/8	3/16	4.475	.030	.210	.005	113,67	0,76	5,33	0,13
2-350	-350	4 5/8	5	3/16	4.600	.030	.210	.005	116,84	0,76	5,33	0,13
2-351	-351	4 3/4	5 1/8	3/16	4.725	.030	.210	.005	120,02	0,76	5,33	0,13
2-352	-352	4 7/8	5 1/4	3/16	4.850	.030	.210	.005	123,19	0,76	5,33	0,13
2-353	-353	5	5 3/8	3/16	4.975	.037	.210	.005	126,37	0,94	5,33	0,13
2-354	-354	5 1/8	5 1/2	3/16	5.100	.037	.210	.005	129,54	0,94	5,33	0,13
2-355	-355	5 1/4	5 5/8	3/16	5.225	.037	.210	.005	132,72	0,94	5,33	0,13
2-356	-356	5 3/8	5 3/4	3/16	5.350	.037	.210	.005	135,89	0,94	5,33	0,13
2-357	-357	5 1/2	5 7/8	3/16	5.475	.037	.210	.005	139,07	0,94	5,33	0,13
2-358	-358	5 5/8	6	3/16	5.600	.037	.210	.005	142,24	0,94	5,33	0,13
2-359	-359	5 3/4	6 1/8	3/16	5.725	.037	.210	.005	145,42	0,94	5,33	0,13
2-360	-360	5 7/8	6 1/4	3/16	5.850	.037	.210	.005	148,59	0,94	5,33	0,13
2-361	-361	6	6 3/8	3/16	5.975	.037	.210	.005	151,77	0,94	5,33	0,13
2-362	-362	6 1/4	6 5/8	3/16	6.225	.040	.210	.005	158,12	1,02	5,33	0,13
2-363	-363	6 1/2	6 7/8	3/16	6.475	.040	.210	.005	164,47	1,02	5,33	0,13
2-364	-364	6 3/4	7 1/8	3/16	6.725	.040	.210	.005	170,82	1,02	5,33	0,13
2-365	-365	7	7 3/8	3/16	6.975	.040	.210	.005	177,17	1,02	5,33	0,13
2-366	-366	7 1/4	7 5/8	3/16	7.225	.045	.210	.005	183,52	1,14	5,33	0,13
2-367	-367	7 1/2	7 7/8	3/16	7.475	.045	.210	.005	189,87	1,14	5,33	0,13
2-368	-368	7 3/4	8 1/8	3/16	7.725	.045	.210	.005	196,22	1,14	5,33	0,13
2-369	-369	8	8 3/8	3/16	7.975	.045	.210	.005	202,57	1,14	5,33	0,13
2-370	-370	8 1/4	8 5/8	3/16	8.225	.050	.210	.005	208,92	1,27	5,33	0,13
2-371	-371	8 1/2	8 7/8	3/16	8.475	.050	.210	.005	215,27	1,27	5,33	0,13
2-372	-372	8 3/4	9 1/8	3/16	8.725	.050	.210	.005	221,62	1,27	5,33	0,13
2-373	-373	9	9 3/8	3/16	8.975	.050	.210	.005	227,97	1,27	5,33	0,13
2-374	-374	9 1/4	9 5/8	3/16	9.225	.055	.210	.005	234,32	1,4	5,33	0,13
2-375	-375	9 1/2	9 7/8	3/16	9.475	.055	.210	.005	240,67	1,4	5,33	0,13
2-376	-376	9 3/4	10 1/8	3/16	9.725	.055	.210	.005	247,02	1,4	5,33	0,13
2-377	-377	10	10 3/8	3/16	9.975	.055	.210	.005	253,37	1,4	5,33	0,13
2-378	-378	10 1/2	10 7/8	3/16	10.475	.060	.210	.005	266,07	1,52	5,33	0,13
2-379	-379	11	11 3/8	3/16	10.975	.060	.210	.005	278,77	1,52	5,33	0,13
2-380	-380	11 1/2	11 7/8	3/16	11.475	.065	.210	.005	291,47	1,65	5,33	0,13



2-441	-441	7	7 1/2	1/4	6.975	.040	.275	.006	177,17	1,02	6,99	0,15
2-442	-442	7 1/4	7 3/4	1/4	7.225	.045	.275	.006	183,52	1,14	6,99	0,15
2-443	-443	7 1/2	8	1/4	7.475	.045	.275	.006	189,87	1,14	6,99	0,15
2-444	-444	7 3/4	8 1/4	1/4	7.725	.045	.275	.006	196,22	1,14	6,99	0,15
2-445	-445	8	8 1/2	1/4	7.975	.045	.275	.006	202,57	1,14	6,99	0,15
2-446	-446	8 1/2	9	1/4	8.475	.055	.275	.006	215,27	1,4	6,99	0,15
2-447	-447	9	9 1/2	1/4	8.975	.055	.275	.006	227,97	1,4	6,99	0,15
2-448	-448	9 1/2	10	1/4	9.475	.055	.275	.006	240,67	1,4	6,99	0,15
2-449	-449	10	10 1/2	1/4	9.975	.055	.275	.006	253,37	1,4	6,99	0,15
2-450	-450	10 1/2	11	1/4	10.475	.060	.275	.006	266,07	1,52	6,99	0,15
2-451	-451	11	11 1/2	1/4	10.975	.060	.275	.006	278,77	1,52	6,99	0,15
2-452	-452	11 1/2	12	1/4	11.475	.060	.275	.006	291,47	1,52	6,99	0,15
2-453	-453	12	12 1/2	1/4	11.975	.060	.275	.006	304,17	1,52	6,99	0,15
2-454	-454	12 1/2	13	1/4	12.475	.060	.275	.006	316,87	1,52	6,99	0,15
2-455	-455	13	13 1/2	1/4	12.975	.060	.275	.006	329,57	1,52	6,99	0,15
2-456	-456	13 1/2	14	1/4	13.475	.070	.275	.006	342,27	1,78	6,99	0,15
2-457	-457	14	14 1/2	1/4	13.975	.070	.275	.006	354,97	1,78	6,99	0,15
2-458	-458	14 1/2	15	1/4	14.475	.070	.275	.006	367,67	1,78	6,99	0,15
2-459	-459	15	15 1/2	1/4	14.975	.070	.275	.006	380,37	1,78	6,99	0,15
2-460	-460	15 1/2	16	1/4	15.475	.070	.275	.006	393,07	1,78	6,99	0,15
2-461	-461	16	16 1/2	1/4	15.955	.075	.275	.006	405,26	1,91	6,99	0,15
2-462	-462	16 1/2	17	1/4	16.455	.075	.275	.006	417,96	1,91	6,99	0,15
2-463	-463	17	17 1/2	1/4	16.955	.080	.275	.006	430,66	2,03	6,99	0,15
2-464	-464	17 1/2	18	1/4	17.455	.085	.275	.006	443,36	2,16	6,99	0,15
2-465	-465	18	18 1/2	1/4	17.955	.085	.275	.006	456,06	2,16	6,99	0,15
2-466	-466	18 1/2	19	1/4	18.455	.085	.275	.006	468,76	2,16	6,99	0,15
2-467	-467	19	19 1/2	1/4	18.955	.090	.275	.006	481,46	2,29	6,99	0,15
2-468	-468	19 1/2	20	1/4	19.455	.090	.275	.006	494,16	2,29	6,99	0,15
2-469	-469	20	20 1/2	1/4	19.955	.095	.275	.006	506,86	2,41	6,99	0,15