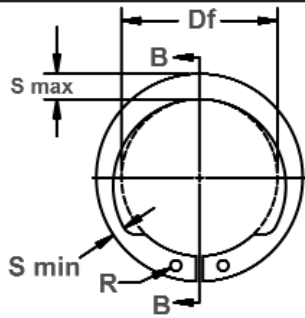




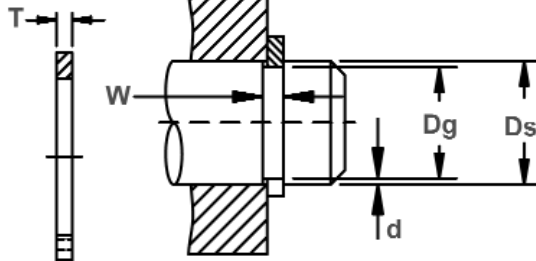
SHI Shaft Rings

Axially Assembled, External Inverted

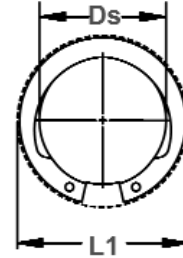
Functions like an SH ring on a shaft, only the lugs are "reversed." This version reduces the distance the lugs of the standard SH extend beyond the circumference of the shaft. The shaft can then be used in an application where clearance is minimal.



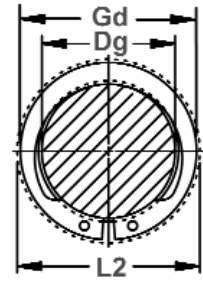
Free Diameter & Ring Measurements
with Section B-B



Shaft Diameter &
Groove Dimensions



Clearance Diameter
Expanded Over Shaft



Clearance Diameter & Gaging
Diameter Released in Groove

RING NO.	SHAFT DIAMETER			GROOVE SIZE			RING SIZE & WEIGHT				CLEAR. DIA.		THRUST LD. (lbs.)	
				DIAMETER		DEPTH	FREE DIAMETER		THICKNESS***	Weight Per 1000 Pcs.	Expanded over shaft	Re-leased in groove	Sqr. corner abutment	
	Ds DEC	Ds FRACT	Ds mm	Dg	Tol.		Df	Tol.					Ring Safety factor of 4	Groove Safety factor of 2
SHI-50	.500	1/2	12.7	.468	±.002	.039	.016	.461	.035	1.0	.67	.645	1117	280
SHI-56	.562	9/16	14.3	.530	.004*	.039	.016	.521	.035	1.4	.75	.72	1269	320
SHI-59	.594	19/32	15.1	.559	.039	.039	.017	.550	.035	1.6	.79	.76	1320	370
SHI-62	.625	5/8	15.9	.588	.039	.039	.018	.579	.035	1.6	.83	.80	1421	400
SHI-68	.688	11/16	17.5	.646	.046	.046	.021	.635	.042	2.5	.91	.87	2335	500
SHI-75	.750	3/4	19.0	.704	±.003	.046	.023	.693	.042	2.8	.99	.95	2538	600
SHI-78	.781	25/32	19.8	.733	.004*	.046	.024	.722	.042	3.1	1.04	1.00	2639	650
SHI-81	.812	13/16	20.6	.762	.046	.046	.025	.751	.042	3.3	1.08	1.03	2690	700
SHI-87	.875	7/8	22.2	.821	.046	.046	.027	.810	.042	3.8	1.15	1.10	2893	850
SHI-93	.938	15/16	23.8	.882	.046	.046	.028	.867	.042	4.5	1.23	1.18	3147	900
SHI-100	.984	63/64	25.0	.926	.046	.046	.029	.925	.042	4.8	1.30	1.25	3350	1000
SHI-100	1.000	1	25.4	.940	.046	.046	.030	.925	.042	4.8	1.31	1.26	3350	1050
SHI-106	1.062	1-1/16	27.0	.998	.056	.056	.032	.982	.050	6.2	1.38	1.32	4212	1200
SHI-112	1.125	1-1/8	28.6	1.059	.056	.056	.033	1.041	.050	6.7	1.45	1.39	4466	1300
SHI-118	1.188	1-3/16	30.2	1.118	.056	.056	.035	1.098	.050	7.2	1.52	1.46	4720	1450
SHI-125	1.250	1-1/4	31.7	1.176	±.004	.056	.037	1.156	.050	7.6	1.59	1.52	4974	1600
SHI-131	1.312	1-5/16	33.3	1.232	.005*	.056	.040	1.214	.050	8.2	1.66	1.58	5227	1850
SHI-137	1.375	1-3/8	34.9	1.291	.056	.056	.042	1.272	.050	8.4	1.73	1.65	5481	2050
SHI-143	1.438	1-7/16	36.5	1.350	.056	.056	.044	1.333	.050	9.1	1.80	1.72	5735	2200
SHI-150	1.500	1-1/2	38.1	1.406	.056	.056	.047	1.387	.050	9.8	1.87	1.78	5938	2500
SHI-156	1.562	1-9/16	39.7	1.468	.068	.068	.047	1.446	.062	12.9	1.95	1.86	7714	2600
SHI-162	1.625	1-5/8	41.3	1.529	.068	.068	.048	1.503	.062	13.4	2.02	1.93	8019	2750
SHI-177	1.750	1-3/4	44.4	1.650	.068	.068	.050	1.637	.062	16.1	2.18	2.08	8628	3100
SHI-177	1.772	-	45.0	1.669	±.005	.068	.051	1.637	.062	16.1	2.20	2.10	8628	3200
SHI-181	1.812	1-13/16	46.0	1.708	.005*	.068	.052	1.675	.062	17.3	2.24	2.14	8983	3300
SHI-196	1.969	1-31/32	50.0	1.857	.068	.068	.056	1.819	.062	20.5	2.43	2.32	9693	3900
SHI-200	2.000	2	50.8	1.886	.068	.068	.057	1.850	.062	20.7	2.47	2.36	9896	4000
SHI-215	2.125	2-1/8	54.0	2.003	.086	.086	.061	1.993	.078	30.0	2.62	2.50	13195	4550
SHI-215	2.156	2-5/32	54.8	2.032	.086	.086	.062	1.993	.078	30.0	2.65	2.53	13195	4700
SHI-250	2.500	2-1/2	63.5	2.360	.086	.086	.070	2.313	.078	43.5	3.05	2.92	15530	6200
SHI-275	2.750	2-3/4	69.8	2.602	±.006	.103	.074	2.543	.093	57.9	3.34	3.20	20402	7200
SHI-287	2.875	2-7/8	73.0	2.721	.006*	.103	.077	2.659	.093	64.5	3.49	3.34	21315	7800
SHI-315	3.156	3-5/32	80.2	2.986	.103	.103	.085	2.920	.093	77.0	3.82	3.66	23447	9400
SHI-325	3.250	3-1/4	82.5	3.076	.103	.103	.087	3.006	.093	77.5	3.93	3.76	24056	10000
SHI-350	3.500	3-1/2	88.9	3.316	.120	.120	.092	3.237	.109	107.0	4.22	4.04	30349	11500
SHI-393	3.938	3-15/16	100.0	3.734	.120	.120	.102	3.642	.109	123.0	4.71	4.51	34206	14000

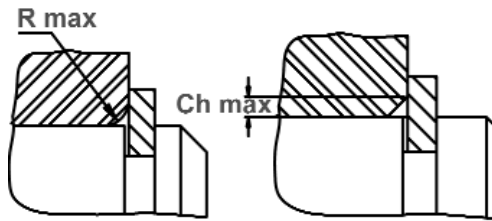
* F.I.M. (FULL INDICATOR MOVEMENT)-MAXIMUM ALLOWABLE DEVIATION OF CONCENTRICITY BETWEEN GROOVE AND SHAFT.

† BASED ON HOUSINGS/SHAFTS MADE OF COLD ROLLED STEEL. FOR AN EXPLANATION OF FORMULAS USED TO DERIVE THRUST LOAD AND OTHER PERFORMANCE DATA, CONTACT THE ROTOR CLIP ENGINEERING DEPARTMENT.

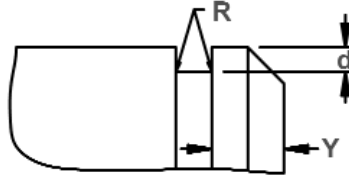
***FOR PLATED RINGS, ADD .002" TO THE LISTED MAXIMUM RING THICKNESS. MAXIMUM RING THICKNESS WILL BE A MINIMUM OF .0002" LESS THAN THE LISTED GROOVE WIDTH (W) MINIMUM.

HARDNESS RANGES: STAINLESS STEEL RINGS (PH 15-7MO)

RING TYPE	SIZE RANGE	SCALE	ROCKWELL HARDNESS
SHI	50-81	30N	63-69.5
	87+	C	44-51



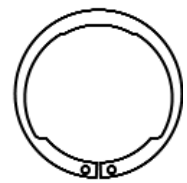
Maximum Corner Radius & Chamfer



Exploded Groove Profile & Edge Margin (Y)
Maximum bottom radii (R), .005 for ring sizes -50 thru -100; .010 for ring sizes -106 thru -393



Measuring Free Diameter (Df) SHI Series
 $Df = D1 - 2(S \text{ max})$



Alternate Design
Manufacturer's Option

RING NO.	MAXIMUM SECTION (Including Lug)		MINIMUM SECTION		HOLE DIAMETER		GAGING DIAMETER	ALLOWABLE CORNER RADII & CHAMFERS			MAX. LOAD w/R max or Ch max (in lbs.)	EDGE MARGIN	R.P.M. LIMITS Standard material
	S max	Tol.	S min	Tol.	R	Tol.	Gd Max	R max	Ch max	P'r		Y	
SHI-50	.080	±.004	.041	±.004	.042	+.010 -.002	.64	.051	.032	680		.048	40000
SHI-56	.088		.043		.042		.715	.057	.036	680		.048	35000
SHI-59	.092		.046		.042		.75	.059	.037	680		.052	32000
SHI-62	.096		.048		.042		.79	.062	.039	680		.055	30000
SHI-68	.104	±.005	.052	±.005	.042	+.010 -.002	.87	.066	.042	1000		.063	28000
SHI-75	.112		.056		.042		.945	.071	.045	1000		.069	26500
SHI-78	.116		.057		.042		.98	.073	.046	1000		.072	25500
SHI-81	.120		.060		.050		1.02	.076	.048	1000		.075	24500
SHI-87	.128	±.006	.064	±.006	.050	+.015 -.002	1.095	.080	.051	1000		.081	23000
SHI-93	.136		.068		.050		1.17	.086	.054	1000		.084	21500
SHI-100	.144		.072		.050		1.24	.091	.057	1000		.087	20000
SHI-100	.144		.072		.050		1.25	.091	.057	1000		.090	20000
SHI-106	.147	±.006	.073	±.006	.078	+.015 -.002	1.31	.092	.058	1460		.096	19000
SHI-112	.150		.075		.078		1.38	.093	.059	1460		.099	18800
SHI-118	.153		.076		.078		1.45	.094	.059	1460		.105	18000
SHI-125	.157		.079		.078		1.52	.096	.060	1460		.111	17000
SHI-131	.161	±.007	.080	±.007	.078	+.015 -.002	1.58	.097	.061	1460		.120	16500
SHI-137	.165		.082		.078		1.65	.098	.061	1460		.126	16000
SHI-143	.169		.085		.078		1.715	.100	.063	1460		.132	15000
SHI-150	.173		.086		.078		1.775	.100	.063	1460		.141	14800
SHI-156	.178	±.008	.089	±.008	.078	+.015 -.002	1.85	.104	.066	2250		.141	14000
SHI-162	.183		.092		.078		1.92	.108	.067	2250		.144	13200
SHI-177	.196		.098		.078		2.07	.116	.073	2250		.150	11700
SHI-177	.196		.098		.078		2.09	.116	.073	2250		.153	11700
SHI-181	.199	±.008	.100	±.008	.078	+.015 -.002	2.13	.117	.074	2250		.156	11500
SHI-196	.212		.106		.078		2.31	.124	.078	2250		.168	10500
SHI-200	.216		.108		.078		2.35	.127	.080	2250		.171	10000
SHI-215	.229		.117		.120		2.49	.133	.084	3750		.183	9400
SHI-215	.229	±.007	.117	±.007	.120	+.015 -.002	2.52	.133	.084	3750		.186	9400
SHI-250	.250		.130		.120		2.91	.151	.095	3750		.210	8400
SHI-275	.280		.140		.120		3.19	.165	.103	5500		.222	7600
SHI-287	.290		.145		.120		3.33	.170	.107	5500		.231	7300
SHI-315	.316	±.008	.159	±.008	.120	+.015 -.002	3.65	.185	.116	5500		.255	6500
SHI-325	.324		.162		.120		3.75	.190	.118	5500		.261	6400
SHI-350	.345		.173		.125		4.03	.202	.127	7850		.276	5900
SHI-393	.368		.183		.125		4.50	.212	.133	7850		.306	5200

LARGER SIZES MAY BE AVAILABLE UPON REQUEST.

HARDNESS RANGES: CARBON STEEL RINGS (SAE 1060-1090)

RING TYPE	SIZE RANGE	SCALE	ROCKWELL HARDNESS
SHI	50-81	30N	66-71
	87-102	C	47-53
	106-343	C	47-52
	350+	C	45-50

HARDNESS RANGES: BERYLLIUM COPPER RINGS

RING TYPE	SIZE RANGE	SCALE	ROCKWELL HARDNESS
SHI	50-81	30N	56.5-62
	87+	C	37-43

