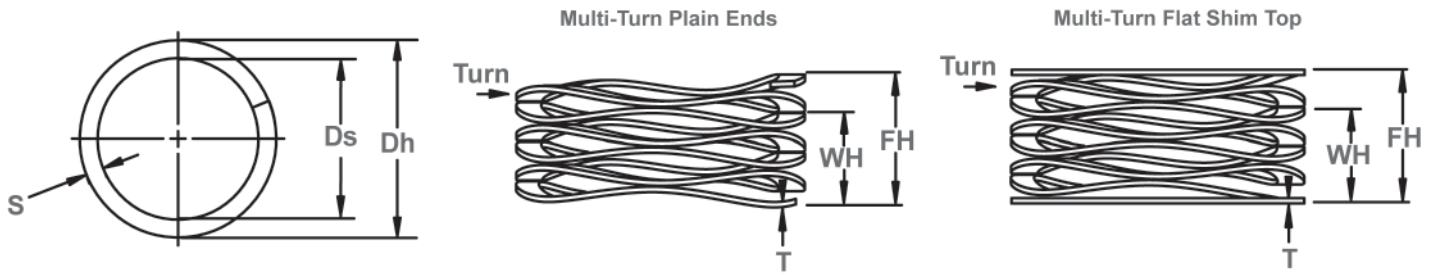


WSL, WSM, WSR Wave Springs

Multi Turn, Inch

Used for low to medium force applications with greater travel compared to single-turn springs. Utilizes nearly half the space as helical compression springs while producing the same force.



Wave Spring Measurements

WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm							T	S	
				Ds		WH	FH					
WSL-25 A*	.250	1/4	6.4	.150	2	.033	.075	2.5	3	.006	.024	48
WSL-25 B*	.250	1/4	6.4	.150	2	.050	.100	2.5	4	.006	.024	40
WSL-25 C*	.250	1/4	6.4	.150	2	.060	.125	2.5	5	.006	.024	31
WSL-25 D*	.250	1/4	6.4	.150	2	.075	.150	2.5	6	.006	.024	27
WSL-25 E*	.250	1/4	6.4	.150	2	.085	.175	2.5	7	.006	.024	22
WSL-25 F*	.250	1/4	6.4	.150	2	.095	.200	2.5	8	.006	.024	19
WSL-25 G*	.250	1/4	6.4	.150	2	.120	.225	2.5	9	.006	.024	19
WSL-25 H*	.250	1/4	6.4	.150	2	.140	.275	2.5	11	.006	.024	15
WSL-25 I*	.250	1/4	6.4	.150	2	.170	.325	2.5	13	.006	.024	13
WSM-25 A*	.250	1/4	6.4	.150	5	.037	.075	2.5	3	.008	.024	132
WSM-25 B*	.250	1/4	6.4	.150	5	.048	.100	2.5	4	.008	.024	96
WSM-25 C*	.250	1/4	6.4	.150	5	.065	.125	2.5	5	.008	.024	83
WSM-25 D*	.250	1/4	6.4	.150	5	.075	.150	2.5	6	.008	.024	67
WSM-25 E*	.250	1/4	6.4	.150	5	.090	.175	2.5	7	.008	.024	59
WSM-25 F*	.250	1/4	6.4	.150	5	.100	.200	2.5	8	.008	.024	50
WSM-25 G*	.250	1/4	6.4	.150	5	.120	.225	2.5	9	.008	.024	48
WSM-25 H*	.250	1/4	6.4	.150	5	.148	.275	2.5	11	.008	.024	39
WSM-25 I*	.250	1/4	6.4	.150	5	.175	.325	2.5	13	.008	.024	33
WSL-31 A	.312	5/16	7.9	.200	3	.070	.114	2.5	3	.008	.032	68
WSL-31 B	.312	5/16	7.9	.200	3	.096	.152	2.5	4	.008	.032	54
WSL-31 C	.312	5/16	7.9	.200	3	.118	.190	2.5	5	.008	.032	42
WSL-31 D	.312	5/16	7.9	.200	3	.145	.228	2.5	6	.008	.032	36
WSL-31 E	.312	5/16	7.9	.200	3	.165	.266	2.5	7	.008	.032	30
WSL-31 F	.312	5/16	7.9	.200	3	.195	.304	2.5	8	.008	.032	28
WSL-31 G	.312	5/16	7.9	.200	3	.215	.342	2.5	9	.008	.032	24
WSL-31 H	.312	5/16	7.9	.200	3	.262	.418	2.5	11	.008	.032	19
WSL-31 I	.312	5/16	7.9	.200	3	.309	.494	2.5	13	.008	.032	16
WSM-31 A	.312	5/16	7.9	.200	6	.072	.114	2.5	3	.010	.032	143
WSM-31 B	.312	5/16	7.9	.200	6	.096	.152	2.5	4	.010	.032	107
WSM-31 C	.312	5/16	7.9	.200	6	.123	.190	2.5	5	.010	.032	90
WSM-31 D	.312	5/16	7.9	.200	6	.144	.228	2.5	6	.010	.032	71
WSM-31 E	.312	5/16	7.9	.200	6	.176	.266	2.5	7	.010	.032	67
WSM-31 F	.312	5/16	7.9	.200	6	.197	.304	2.5	8	.010	.032	56
WSM-31 G	.312	5/16	7.9	.200	6	.227	.342	2.5	9	.010	.032	52
WSM-31 H	.312	5/16	7.9	.200	6	.278	.418	2.5	11	.010	.032	43
WSM-31 I	.312	5/16	7.9	.200	6	.336	.494	2.5	13	.010	.032	38

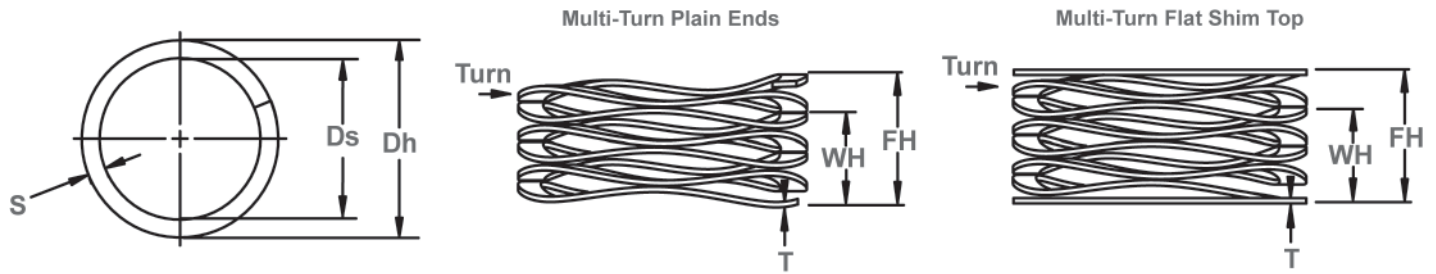
*Not available with shim ends.

PART NUMBERS SHOWN REFLECT MULTI-TURN WAVE SPRINGS WITH PLAIN ENDS.

THE LETTERS SHOWN AFTER THE PART NUMBERS REPRESENT THE NUMBER OF TURNS. WHEN ORDERING, PARTS SHOULD BE PRESENTED WITH THE PART NUMBER, FOLLOWED BY THE MATERIAL, AND THEN THE NUMBER OF TURNS (i.e. WSL-37ST A, WSM-50ST B, WSR-75ST C, ETC.)

FOR FLAT SHIM TOP WAVE SPRINGS, ADD AN 'P' TO THE END OF THE PART NUMBER (i.e. WSL-37ST AP, WSM-50ST BP, WSR-75ST CP, ETC.)

MATERIAL CODES: ST = CARBON STEEL. SQ = 17-7 PH/C STAINLESS STEEL. SPECIAL ALLOYS AVAILABLE UPON REQUEST.



Wave Spring Measurements

WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm									
				Ds		WH	FH			T	S	
WSL-37 A	.375	3/8	9.5	.250	4	.062	.150	2.5	3	.008	.032	45
WSL-37 B	.375	3/8	9.5	.250	4	.098	.200	2.5	4	.008	.032	39
WSL-37 C	.375	3/8	9.5	.250	4	.108	.250	2.5	5	.008	.032	28
WSL-37 D	.375	3/8	9.5	.250	4	.135	.300	2.5	6	.008	.032	24
WSL-37 E	.375	3/8	9.5	.250	4	.150	.350	2.5	7	.008	.032	20
WSL-37 F	.375	3/8	9.5	.250	4	.184	.400	2.5	8	.008	.032	19
WSL-37 G	.375	3/8	9.5	.250	4	.195	.450	2.5	9	.008	.032	16
WSL-37 H	.375	3/8	9.5	.250	4	.228	.500	2.5	10	.008	.032	15
WSL-37 I	.375	3/8	9.5	.250	4	.240	.550	2.5	11	.008	.032	13
WSM-37 A	.375	3/8	9.5	.250	7	.081	.150	2.5	3	.011	.032	101
WSM-37 B	.375	3/8	9.5	.250	7	.119	.200	2.5	4	.011	.032	86
WSM-37 C	.375	3/8	9.5	.250	7	.145	.250	2.5	5	.011	.032	67
WSM-37 D	.375	3/8	9.5	.250	7	.180	.300	2.5	6	.011	.032	58
WSM-37 E	.375	3/8	9.5	.250	7	.202	.350	2.5	7	.011	.032	47
WSM-37 F	.375	3/8	9.5	.250	7	.240	.400	2.5	8	.011	.032	44
WSM-37 G	.375	3/8	9.5	.250	7	.262	.450	2.5	9	.011	.032	37
WSM-37 H	.375	3/8	9.5	.250	7	.298	.500	2.5	10	.011	.032	35
WSM-37 I	.375	3/8	9.5	.250	7	.327	.550	2.5	11	.011	.032	31
WSL-43 A	.437	7/16	11.1	.281	4	.063	.165	2.5	3	.008	.040	39
WSL-43 B	.437	7/16	11.1	.281	4	.093	.220	2.5	4	.008	.040	31
WSL-43 C	.437	7/16	11.1	.281	4	.109	.275	2.5	5	.008	.040	24
WSL-43 D	.437	7/16	11.1	.281	4	.143	.330	2.5	6	.008	.040	21
WSL-43 E	.437	7/16	11.1	.281	4	.160	.385	2.5	7	.008	.040	18
WSL-43 F	.437	7/16	11.1	.281	4	.195	.440	2.5	8	.008	.040	16
WSL-43 G	.437	7/16	11.1	.281	4	.210	.495	2.5	9	.008	.040	14
WSL-43 H	.437	7/16	11.1	.281	4	.240	.550	2.5	10	.008	.040	13
WSL-43 I	.437	7/16	11.1	.281	4	.260	.605	2.5	11	.008	.040	12
WSM-43 A	.437	7/16	11.1	.281	8	.082	.165	2.5	3	.011	.046	96
WSM-43 B	.437	7/16	11.1	.281	8	.115	.220	2.5	4	.011	.046	76
WSM-43 C	.437	7/16	11.1	.281	8	.142	.275	2.5	5	.011	.046	60
WSM-43 D	.437	7/16	11.1	.281	8	.179	.330	2.5	6	.011	.046	53
WSM-43 E	.437	7/16	11.1	.281	8	.198	.385	2.5	7	.011	.046	43
WSM-43 F	.437	7/16	11.1	.281	8	.231	.440	2.5	8	.011	.046	38
WSM-43 G	.437	7/16	11.1	.281	8	.255	.495	2.5	9	.011	.046	33
WSM-43 H	.437	7/16	11.1	.281	8	.290	.550	2.5	10	.011	.046	31
WSM-43 I	.437	7/16	11.1	.281	8	.319	.605	2.5	11	.011	.046	28

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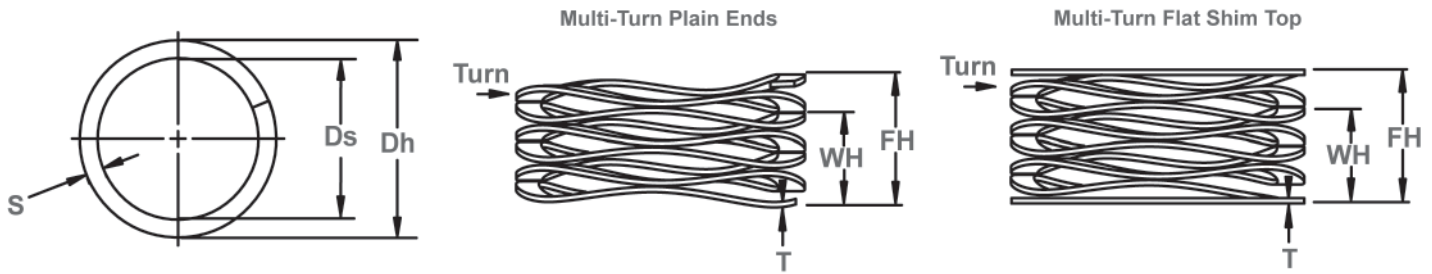
FOR FLAT SHIM TOP WAVE SPRINGS, ADD AN 'P' TO THE END OF THE PART NUMBER (i.e. WSL-37ST AP, WSM-50ST BP, WSR-75ST CP, ETC.)

MATERIAL CODES: ST = CARBON STEEL. SQ = 17-7 PH/C STAINLESS STEEL. SPECIAL ALLOYS AVAILABLE UPON REQUEST.

WSL, WSM, WSR Wave Springs

Multi Turn, Inch

Used for low to medium force applications with greater travel compared to single-turn springs. Utilizes nearly half the space as helical compression springs while producing the same force.



Wave Spring Measurements

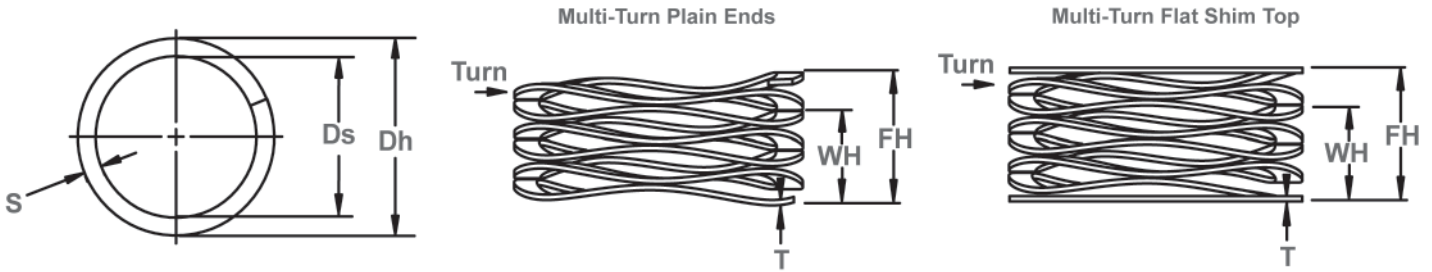
WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm									
				Ds		WH	FH			T	S	
WSL-50 A	.500	1/2	12.7	.312	5	.062	.180	2.5	3	.008	.056	42
WSL-50 B	.500	1/2	12.7	.312	5	.090	.240	2.5	4	.008	.056	33
WSL-50 C	.500	1/2	12.7	.312	5	.107	.300	2.5	5	.008	.056	26
WSL-50 D	.500	1/2	12.7	.312	5	.136	.360	2.5	6	.008	.056	22
WSL-50 E	.500	1/2	12.7	.312	5	.150	.420	2.5	7	.008	.056	19
WSL-50 F	.500	1/2	12.7	.312	5	.180	.480	2.5	8	.008	.056	17
WSL-50 G	.500	1/2	12.7	.312	5	.195	.540	2.5	9	.008	.056	14
WSL-50 H	.500	1/2	12.7	.312	5	.220	.600	2.5	10	.008	.056	13
WSL-50 I	.500	1/2	12.7	.312	5	.240	.660	2.5	11	.008	.056	12
WSM-50 A	.500	1/2	12.7	.312	10	.065	.180	2.5	3	.010	.058	87
WSM-50 B	.500	1/2	12.7	.312	10	.092	.240	2.5	4	.010	.058	68
WSM-50 C	.500	1/2	12.7	.312	10	.114	.300	2.5	5	.010	.058	54
WSM-50 D	.500	1/2	12.7	.312	10	.147	.360	2.5	6	.010	.058	47
WSM-50 E	.500	1/2	12.7	.312	10	.162	.420	2.5	7	.010	.058	39
WSM-50 F	.500	1/2	12.7	.312	10	.196	.480	2.5	8	.010	.058	35
WSM-50 G	.500	1/2	12.7	.312	10	.207	.540	2.5	9	.010	.058	30
WSM-50 H	.500	1/2	12.7	.312	10	.246	.600	2.5	10	.010	.058	28
WSM-50 I	.500	1/2	12.7	.312	10	.264	.660	2.5	11	.010	.058	25
WSL-56 A	.562	9/16	14.3	.375	5	.080	.195	2.5	3	.009	.058	43
WSL-56 B	.562	9/16	14.3	.375	5	.125	.260	2.5	4	.009	.058	37
WSL-56 C	.562	9/16	14.3	.375	5	.135	.325	2.5	5	.009	.058	26
WSL-56 D	.562	9/16	14.3	.375	5	.180	.390	2.5	6	.009	.058	24
WSL-56 E	.562	9/16	14.3	.375	5	.190	.455	2.5	7	.009	.058	19
WSL-56 F	.562	9/16	14.3	.375	5	.230	.520	2.5	8	.009	.058	17
WSL-56 G	.562	9/16	14.3	.375	5	.260	.585	2.5	9	.009	.058	15
WSL-56 H	.562	9/16	14.3	.375	5	.285	.650	2.5	10	.009	.058	14
WSL-56 I	.562	9/16	14.3	.375	5	.315	.715	2.5	11	.009	.058	13
WSM-56 A	.562	9/16	14.3	.375	11	.086	.195	2.5	3	.012	.060	101
WSM-56 B	.562	9/16	14.3	.375	11	.123	.260	2.5	4	.012	.060	80
WSM-56 C	.562	9/16	14.3	.375	11	.145	.325	2.5	5	.012	.060	61
WSM-56 D	.562	9/16	14.3	.375	11	.187	.390	2.5	6	.012	.060	54
WSM-56 E	.562	9/16	14.3	.375	11	.209	.455	2.5	7	.012	.060	45
WSM-56 F	.562	9/16	14.3	.375	11	.253	.520	2.5	8	.012	.060	41
WSM-56 G	.562	9/16	14.3	.375	11	.273	.585	2.5	9	.012	.060	35
WSM-56 H	.562	9/16	14.3	.375	11	.318	.650	2.5	10	.012	.060	33
WSM-56 I	.562	9/16	14.3	.375	11	.343	.715	2.5	11	.012	.060	30

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Wave Spring Measurements

WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm									
WSL-62 A	.625	5/8	15.9	.450	6	.055	.180	2.5	3	.010	.058	48
WSL-62 B	.625	5/8	15.9	.450	6	.068	.240	2.5	4	.010	.058	35
WSL-62 C	.625	5/8	15.9	.450	6	.085	.300	2.5	5	.010	.058	28
WSL-62 D	.625	5/8	15.9	.450	6	.106	.360	2.5	6	.010	.058	24
WSL-62 E	.625	5/8	15.9	.450	6	.128	.420	2.5	7	.010	.058	21
WSL-62 F	.625	5/8	15.9	.450	6	.165	.540	2.5	9	.010	.058	16
WSL-62 G	.625	5/8	15.9	.450	6	.202	.660	2.5	11	.010	.058	13
WSL-62 H	.625	5/8	15.9	.450	6	.238	.780	2.5	13	.010	.058	11
WSM-62 A	.625	5/8	15.9	.450	12	.104	.180	3.5	3	.010	.058	158
WSM-62 B	.625	5/8	15.9	.450	12	.130	.240	3.5	4	.010	.058	109
WSM-62 C	.625	5/8	15.9	.450	12	.175	.300	3.5	5	.010	.058	96
WSM-62 D	.625	5/8	15.9	.450	12	.206	.360	3.5	6	.010	.058	78
WSM-62 E	.625	5/8	15.9	.450	12	.246	.420	3.5	7	.010	.058	69
WSM-62 F	.625	5/8	15.9	.450	12	.317	.540	3.5	9	.010	.058	54
WSM-62 G	.625	5/8	15.9	.450	12	.386	.660	3.5	11	.010	.058	44
WSM-62 H	.625	5/8	15.9	.450	12	.454	.780	3.5	13	.010	.058	37
WSL-75 A	.750	3/4	19.0	.550	7	.142	.250	3.5	3	.008	.071	65
WSL-75 B	.750	3/4	19.0	.550	7	.187	.333	3.5	4	.008	.071	48
WSL-75 C	.750	3/4	19.0	.550	7	.246	.417	3.5	5	.008	.071	41
WSL-75 D	.750	3/4	19.0	.550	7	.285	.500	3.5	6	.008	.071	33
WSL-75 E	.750	3/4	19.0	.550	7	.348	.583	3.5	7	.008	.071	30
WSL-75 F	.750	3/4	19.0	.550	7	.446	.750	3.5	9	.008	.071	23
WSL-75 G	.750	3/4	19.0	.550	7	.580	1.000	3.5	12	.008	.071	17
WSM-75 A	.750	3/4	19.0	.550	13	.159	.250	3.5	3	.010	.078	143
WSM-75 B	.750	3/4	19.0	.550	13	.203	.333	3.5	4	.010	.078	100
WSM-75 C	.750	3/4	19.0	.550	13	.270	.417	3.5	5	.010	.078	88
WSM-75 D	.750	3/4	19.0	.550	13	.314	.500	3.5	6	.010	.078	70
WSM-75 E	.750	3/4	19.0	.550	13	.381	.583	3.5	7	.010	.078	64
WSM-75 F	.750	3/4	19.0	.550	13	.489	.750	3.5	9	.010	.078	50
WSM-75 G	.750	3/4	19.0	.550	13	.649	1.000	3.5	12	.010	.078	37
WSR-75 A	.750	3/4	19.0	.550	22	.169	.250	3.5	3	.013	.079	272
WSR-75 B	.750	3/4	19.0	.550	22	.215	.333	3.5	4	.013	.079	186
WSR-75 C	.750	3/4	19.0	.550	22	.291	.417	3.5	5	.013	.079	175
WSR-75 D	.750	3/4	19.0	.550	22	.335	.500	3.5	6	.013	.079	133
WSR-75 E	.750	3/4	19.0	.550	22	.405	.583	3.5	7	.013	.079	124
WSR-75 F	.750	3/4	19.0	.550	22	.526	.750	3.5	9	.013	.079	98
WSR-75 G	.750	3/4	19.0	.550	22	.699	1.000	3.5	12	.013	.079	73

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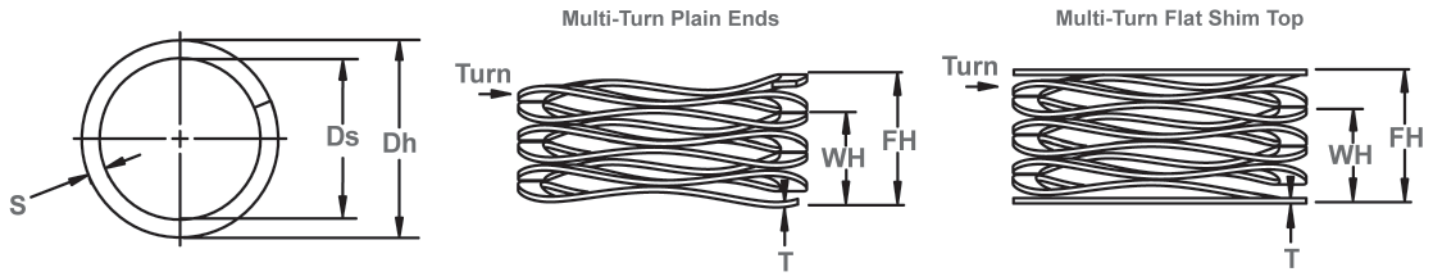
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Wave Spring Measurements

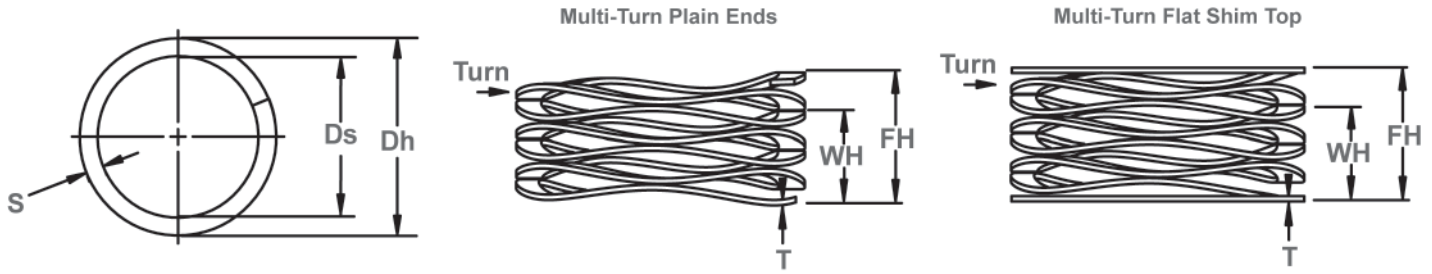
WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm									
WSL-87 A	.875	7/8	22.2	.600	12	.117	.250	3.5	3	.010	.086	90
WSL-87 B	.875	7/8	22.2	.600	12	.158	.333	3.5	4	.010	.086	69
WSL-87 C	.875	7/8	22.2	.600	12	.207	.417	3.5	5	.010	.086	57
WSL-87 D	.875	7/8	22.2	.600	12	.242	.500	3.5	6	.010	.086	47
WSL-87 E	.875	7/8	22.2	.600	12	.287	.583	3.5	7	.010	.086	41
WSL-87 F	.875	7/8	22.2	.600	12	.378	.750	3.5	9	.010	.086	32
WSL-87 G	.875	7/8	22.2	.600	12	.498	1.000	3.5	12	.010	.086	24
WSM-87 A	.875	7/8	22.2	.600	18	.124	.250	3.5	3	.012	.094	148
WSM-87 B	.875	7/8	22.2	.600	18	.164	.333	3.5	4	.012	.094	108
WSM-87 C	.875	7/8	22.2	.600	18	.214	.417	3.5	5	.012	.094	89
WSM-87 D	.875	7/8	22.2	.600	18	.252	.500	3.5	6	.012	.094	76
WSM-87 E	.875	7/8	22.2	.600	18	.296	.583	3.5	7	.012	.094	66
WSM-87 F	.875	7/8	22.2	.600	18	.385	.750	3.5	9	.012	.094	50
WSM-87 G	.875	7/8	22.2	.600	18	.509	1.000	3.5	12	.012	.094	38
WSR-87 A	.875	7/8	22.2	.600	25	.166	.250	3.5	3	.015	.094	298
WSR-87 B	.875	7/8	22.2	.600	25	.214	.333	3.5	4	.015	.094	210
WSR-87 C	.875	7/8	22.2	.600	25	.278	.417	3.5	5	.015	.094	180
WSR-87 D	.875	7/8	22.2	.600	25	.327	.500	3.5	6	.015	.094	145
WSR-87 E	.875	7/8	22.2	.600	25	.395	.583	3.5	7	.015	.094	133
WSR-87 F	.875	7/8	22.2	.600	25	.510	.750	3.5	9	.015	.094	104
WSR-87 G	.875	7/8	22.2	.600	25	.670	1.000	3.5	12	.015	.094	78
WSL-100 A	1.000	1	25.4	.730	12	.084	.250	3.5	3	.010	.086	72
WSL-100 B	1.000	1	25.4	.730	12	.108	.333	3.5	4	.010	.086	53
WSL-100 C	1.000	1	25.4	.730	12	.145	.417	3.5	5	.010	.086	44
WSL-100 D	1.000	1	25.4	.730	12	.165	.500	3.5	6	.010	.086	36
WSL-100 E	1.000	1	25.4	.730	12	.201	.583	3.5	7	.010	.086	31
WSL-100 F	1.000	1	25.4	.730	12	.258	.750	3.5	9	.010	.086	24
WSL-100 G	1.000	1	25.4	.730	12	.342	1.000	3.5	12	.010	.086	18
WSL-100 H	1.000	1	25.4	.730	12	.445	1.250	3.5	15	.010	.086	15
WSL-100 I	1.000	1	25.4	.730	12	.519	1.500	3.5	18	.010	.086	12
WSL-100 J	1.000	1	25.4	.730	12	.633	1.750	3.5	21	.010	.086	11
WSL-100 K	1.000	1	25.4	.730	12	.710	2.000	3.5	24	.010	.086	9

PART NUMBERS SHOWN REFLECT MULTI-TURN WAVE SPRINGS WITH PLAIN ENDS.

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FOR FLAT SHIM TOP WAVE SPRINGS, ADD AN 'F' TO THE END OF THE PART NUMBER (i.e. WSL-37ST AF, WSM-50ST BF, WSR-75ST CF, ETC.)

MATERIAL CODES: ST = CARBON STEEL. SQ = 17-7 PH/C STAINLESS STEEL. SPECIAL ALLOYS AVAILABLE UPON REQUEST.



Wave Spring Measurements

WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm			Ds	WH			FH	T	
WSM-100 A	1.000	1	25.4	.730	18	.087	.250	3.5	3	.012	.094	110
WSM-100 B	1.000	1	25.4	.730	18	.113	.333	3.5	4	.012	.094	82
WSM-100 C	1.000	1	25.4	.730	18	.148	.417	3.5	5	.012	.094	67
WSM-100 D	1.000	1	25.4	.730	18	.175	.500	3.5	6	.012	.094	55
WSM-100 E	1.000	1	25.4	.730	18	.212	.583	3.5	7	.012	.094	49
WSM-100 F	1.000	1	25.4	.730	18	.276	.750	3.5	9	.012	.094	38
WSM-100 G	1.000	1	25.4	.730	18	.360	1.000	3.5	12	.012	.094	28
WSM-100 H	1.000	1	25.4	.730	18	.452	1.250	3.5	15	.012	.094	23
WSM-100 I	1.000	1	25.4	.730	18	.549	1.500	3.5	18	.012	.094	19
WSM-100 J	1.000	1	25.4	.730	18	.650	1.750	3.5	21	.012	.094	16
WSM-100 K	1.000	1	25.4	.730	18	.720	2.000	3.5	24	.012	.094	14
WSR-100 A	1.000	1	25.4	.730	25	.131	.250	3.5	3	.015	.094	210
WSR-100 B	1.000	1	25.4	.730	25	.174	.333	3.5	4	.015	.094	157
WSR-100 C	1.000	1	25.4	.730	25	.227	.417	3.5	5	.015	.094	132
WSR-100 D	1.000	1	25.4	.730	25	.266	.500	3.5	6	.015	.094	107
WSR-100 E	1.000	1	25.4	.730	25	.319	.583	3.5	7	.015	.094	95
WSR-100 F	1.000	1	25.4	.730	25	.406	.750	3.5	9	.015	.094	73
WSR-100 G	1.000	1	25.4	.730	25	.541	1.000	3.5	12	.015	.094	54
WSR-100 H	1.000	1	25.4	.730	25	.688	1.250	3.5	15	.015	.094	45
WSR-100 I	1.000	1	25.4	.730	25	.813	1.500	3.5	18	.015	.094	36
WSR-100 J	1.000	1	25.4	.730	25	.957	1.750	3.5	21	.015	.094	32
WSR-100 K	1.000	1	25.4	.730	25	1.083	2.000	3.5	24	.015	.094	27
WSL-112 A	1.125	1-1/8	28.6	.850	12	.146	.300	3.5	3	.012	.094	78
WSL-112 B	1.125	1-1/8	28.6	.850	12	.186	.400	3.5	4	.012	.094	56
WSL-112 C	1.125	1-1/8	28.6	.850	12	.250	.500	3.5	5	.012	.094	48
WSL-112 D	1.125	1-1/8	28.6	.850	12	.295	.600	3.5	6	.012	.094	39
WSL-112 E	1.125	1-1/8	28.6	.850	12	.344	.700	3.5	7	.012	.094	34
WSL-112 F	1.125	1-1/8	28.6	.850	12	.392	.800	3.5	8	.012	.094	29
WSL-112 G	1.125	1-1/8	28.6	.850	12	.488	1.000	3.5	10	.012	.094	23
WSL-112 H	1.125	1-1/8	28.6	.850	12	.659	1.300	3.5	13	.012	.094	19
WSL-112 I	1.125	1-1/8	28.6	.850	12	.807	1.600	3.5	16	.012	.094	15
WSL-112 J	1.125	1-1/8	28.6	.850	12	1.017	2.000	3.5	20	.012	.094	12
WSM-112 A	1.125	1-1/8	28.6	.850	20	.160	.300	3.5	3	.015	.094	143
WSM-112 B	1.125	1-1/8	28.6	.850	20	.202	.400	3.5	4	.015	.094	101
WSM-112 C	1.125	1-1/8	28.6	.850	20	.270	.500	3.5	5	.015	.094	87
WSM-112 D	1.125	1-1/8	28.6	.850	20	.318	.600	3.5	6	.015	.094	71
WSM-112 E	1.125	1-1/8	28.6	.850	20	.381	.700	3.5	7	.015	.094	63
WSM-112 F	1.125	1-1/8	28.6	.850	20	.427	.800	3.5	8	.015	.094	54
WSM-112 G	1.125	1-1/8	28.6	.850	20	.536	1.000	3.5	10	.015	.094	43
WSM-112 H	1.125	1-1/8	28.6	.850	20	.708	1.300	3.5	13	.015	.094	34
WSM-112 I	1.125	1-1/8	28.6	.850	20	.861	1.600	3.5	16	.015	.094	27
WSM-112 J	1.125	1-1/8	28.6	.850	20	1.088	2.000	3.5	20	.015	.094	22

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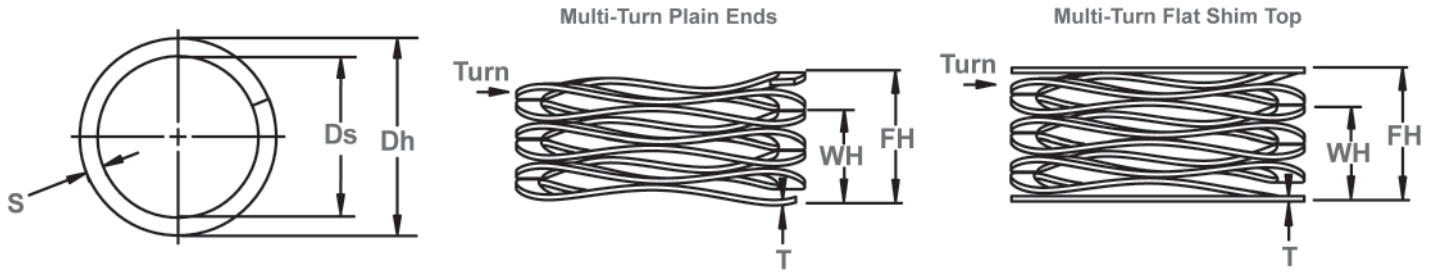
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WSL, WSM, WSR Wave Springs

Multi Turn, Inch

Used for low to medium force applications with greater travel compared to single-turn springs. Utilizes nearly half the space as helical compression springs while producing the same force.



Wave Spring Measurements

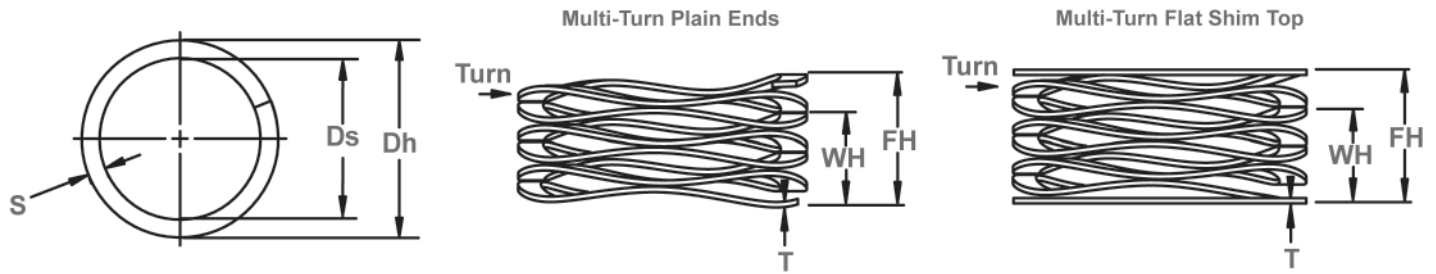
WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm			WH	FH			T	S	
				Ds								
WSR-112 A	1.125	1-1/8	28.6	.850	30	.178	.300	3.5	3	.018	.094	246
WSR-112 B	1.125	1-1/8	28.6	.850	30	.229	.400	3.5	4	.018	.094	175
WSR-112 C	1.125	1-1/8	28.6	.850	30	.303	.500	3.5	5	.018	.094	152
WSR-112 D	1.125	1-1/8	28.6	.850	30	.350	.600	3.5	6	.018	.094	120
WSR-112 E	1.125	1-1/8	28.6	.850	30	.421	.700	3.5	7	.018	.094	108
WSR-112 F	1.125	1-1/8	28.6	.850	30	.470	.800	3.5	8	.018	.094	91
WSR-112 G	1.125	1-1/8	28.6	.850	30	.593	1.000	3.5	10	.018	.094	74
WSR-112 H	1.125	1-1/8	28.6	.850	30	.787	1.300	3.5	13	.018	.094	58
WSR-112 I	1.125	1-1/8	28.6	.850	30	.956	1.600	3.5	16	.018	.094	47
WSR-112 J	1.125	1-1/8	28.6	.850	30	1.202	2.000	3.5	20	.018	.094	38
WSL-125 A	1.250	1-1/4	31.7	1.000	12	.084	.300	3.5	3	.012	.094	56
WSL-125 B	1.250	1-1/4	31.7	1.000	12	.113	.400	3.5	4	.012	.094	42
WSL-125 C	1.250	1-1/4	31.7	1.000	12	.149	.500	3.5	5	.012	.094	34
WSL-125 D	1.250	1-1/4	31.7	1.000	12	.172	.600	3.5	6	.012	.094	28
WSL-125 E	1.250	1-1/4	31.7	1.000	12	.207	.700	3.5	7	.012	.094	24
WSL-125 F	1.250	1-1/4	31.7	1.000	12	.227	.800	3.5	8	.012	.094	21
WSL-125 G	1.250	1-1/4	31.7	1.000	12	.301	1.000	3.5	10	.012	.094	17
WSL-125 H	1.250	1-1/4	31.7	1.000	12	.395	1.300	3.5	13	.012	.094	13
WSL-125 I	1.250	1-1/4	31.7	1.000	12	.467	1.600	3.5	16	.012	.094	11
WSL-125 J	1.250	1-1/4	31.7	1.000	12	.591	2.000	3.5	20	.012	.094	9
WSM-125 A	1.250	1-1/4	31.7	1.000	20	.124	.300	3.5	3	.015	.094	114
WSM-125 B	1.250	1-1/4	31.7	1.000	20	.165	.400	3.5	4	.015	.094	85
WSM-125 C	1.250	1-1/4	31.7	1.000	20	.215	.500	3.5	5	.015	.094	70
WSM-125 D	1.250	1-1/4	31.7	1.000	20	.253	.600	3.5	6	.015	.094	58
WSM-125 E	1.250	1-1/4	31.7	1.000	20	.303	.700	3.5	7	.015	.094	50
WSM-125 F	1.250	1-1/4	31.7	1.000	20	.341	.800	3.5	8	.015	.094	44
WSM-125 G	1.250	1-1/4	31.7	1.000	20	.427	1.000	3.5	10	.015	.094	35
WSM-125 H	1.250	1-1/4	31.7	1.000	20	.577	1.300	3.5	13	.015	.094	28
WSM-125 I	1.250	1-1/4	31.7	1.000	20	.692	1.600	3.5	16	.015	.094	22
WSM-125 J	1.250	1-1/4	31.7	1.000	20	.866	2.000	3.5	20	.015	.094	18
WSR-125 A	1.250	1-1/4	31.7	1.000	30	.158	.300	3.5	3	.019	.094	210
WSR-125 B	1.250	1-1/4	31.7	1.000	30	.210	.400	3.5	4	.019	.094	158
WSR-125 C	1.250	1-1/4	31.7	1.000	30	.272	.500	3.5	5	.019	.094	132
WSR-125 D	1.250	1-1/4	31.7	1.000	30	.320	.600	3.5	6	.019	.094	107
WSR-125 E	1.250	1-1/4	31.7	1.000	30	.384	.700	3.5	7	.019	.094	95
WSR-125 F	1.250	1-1/4	31.7	1.000	30	.433	.800	3.5	8	.019	.094	82
WSR-125 G	1.250	1-1/4	31.7	1.000	30	.538	1.000	3.5	10	.019	.094	65
WSR-125 H	1.250	1-1/4	31.7	1.000	30	.717	1.300	3.5	13	.019	.094	51
WSR-125 I	1.250	1-1/4	31.7	1.000	30	.878	1.600	3.5	16	.019	.094	42
WSR-125 J	1.250	1-1/4	31.7	1.000	30	1.103	2.000	3.5	20	.019	.094	33

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WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm			WH	FH			T	S	
				Ds								
WSL-137 A	1.375	1-3/8	34.9	1.030	15	.075	.300	3.5	3	.012	.122	67
WSL-137 B	1.375	1-3/8	34.9	1.030	15	.099	.400	3.5	4	.012	.122	50
WSL-137 C	1.375	1-3/8	34.9	1.030	15	.129	.500	3.5	5	.012	.122	40
WSL-137 D	1.375	1-3/8	34.9	1.030	15	.155	.600	3.5	6	.012	.122	34
WSL-137 E	1.375	1-3/8	34.9	1.030	15	.179	.700	3.5	7	.012	.122	29
WSL-137 F	1.375	1-3/8	34.9	1.030	15	.206	.800	3.5	8	.012	.122	25
WSL-137 G	1.375	1-3/8	34.9	1.030	15	.256	1.000	3.5	10	.012	.122	20
WSL-137 H	1.375	1-3/8	34.9	1.030	15	.341	1.300	3.5	13	.012	.122	16
WSL-137 I	1.375	1-3/8	34.9	1.030	15	.424	1.600	3.5	16	.012	.122	13
WSL-137 J	1.375	1-3/8	34.9	1.030	15	.530	2.000	3.5	20	.012	.122	10
WSM-137 A	1.375	1-3/8	34.9	1.030	25	.142	.300	3.5	3	.016	.133	158
WSM-137 B	1.375	1-3/8	34.9	1.030	25	.186	.400	3.5	4	.016	.133	117
WSM-137 C	1.375	1-3/8	34.9	1.030	25	.240	.500	3.5	5	.016	.133	96
WSM-137 D	1.375	1-3/8	34.9	1.030	25	.281	.600	3.5	6	.016	.133	78
WSM-137 E	1.375	1-3/8	34.9	1.030	25	.340	.700	3.5	7	.016	.133	69
WSM-137 F	1.375	1-3/8	34.9	1.030	25	.384	.800	3.5	8	.016	.133	60
WSM-137 G	1.375	1-3/8	34.9	1.030	25	.486	1.000	3.5	10	.016	.133	49
WSM-137 H	1.375	1-3/8	34.9	1.030	25	.632	1.300	3.5	13	.016	.133	37
WSM-137 I	1.375	1-3/8	34.9	1.030	25	.788	1.600	3.5	16	.016	.133	31
WSM-137 J	1.375	1-3/8	34.9	1.030	25	.982	2.000	3.5	20	.016	.133	25
WSR-137 A	1.375	1-3/8	34.9	1.030	35	.149	.300	3.5	3	.018	.133	232
WSR-137 B	1.375	1-3/8	34.9	1.030	35	.189	.400	3.5	4	.018	.133	166
WSR-137 C	1.375	1-3/8	34.9	1.030	35	.247	.500	3.5	5	.018	.133	138
WSR-137 D	1.375	1-3/8	34.9	1.030	35	.287	.600	3.5	6	.018	.133	112
WSR-137 E	1.375	1-3/8	34.9	1.030	35	.343	.700	3.5	7	.018	.133	98
WSR-137 F	1.375	1-3/8	34.9	1.030	35	.390	.800	3.5	8	.018	.133	85
WSR-137 G	1.375	1-3/8	34.9	1.030	35	.490	1.000	3.5	10	.018	.133	69
WSR-137 H	1.375	1-3/8	34.9	1.030	35	.646	1.300	3.5	13	.018	.133	54
WSR-137 I	1.375	1-3/8	34.9	1.030	35	.793	1.600	3.5	16	.018	.133	43
WSR-137 J	1.375	1-3/8	34.9	1.030	35	1.000	2.000	3.5	20	.018	.133	35
WSL-150 A	1.500	1-1/2	38.1	1.140	20	.129	.300	3.5	3	.016	.133	117
WSL-150 B	1.500	1-1/2	38.1	1.140	20	.164	.400	3.5	4	.016	.133	85
WSL-150 C	1.500	1-1/2	38.1	1.140	20	.213	.500	3.5	5	.016	.133	70
WSL-150 D	1.500	1-1/2	38.1	1.140	20	.247	.600	3.5	6	.016	.133	57
WSL-150 E	1.500	1-1/2	38.1	1.140	20	.301	.700	3.5	7	.016	.133	50
WSL-150 F	1.500	1-1/2	38.1	1.140	20	.337	.800	3.5	8	.016	.133	43
WSL-150 G	1.500	1-1/2	38.1	1.140	20	.430	1.000	3.5	10	.016	.133	35
WSL-150 H	1.500	1-1/2	38.1	1.140	20	.565	1.300	3.5	13	.016	.133	27
WSL-150 I	1.500	1-1/2	38.1	1.140	20	.694	1.600	3.5	16	.016	.133	22
WSL-150 J	1.500	1-1/2	38.1	1.140	20	.866	2.000	3.5	20	.016	.133	18

PART NUMBERS SHOWN REFLECT MULTI-TURN WAVE SPRINGS WITH PLAIN ENDS.

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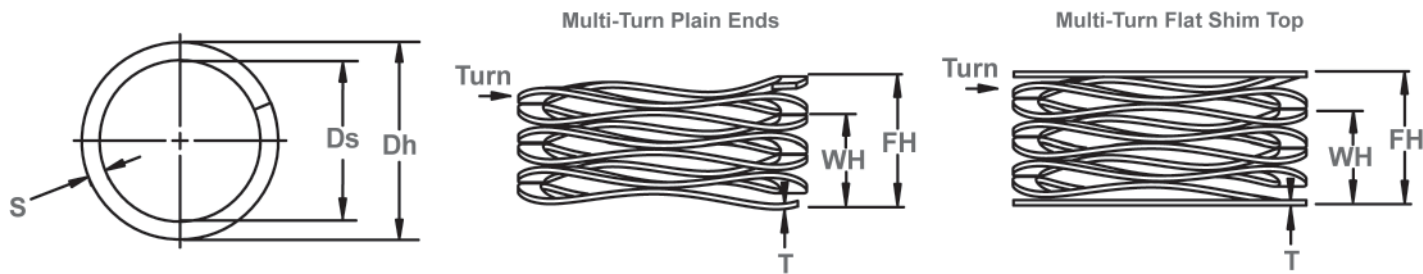
FOR FLAT SHIM TOP WAVE SPRINGS, ADD AN 'F' TO THE END OF THE PART NUMBER (i.e. WSL-37ST AF, WSM-50ST BF, WSR-75ST CF, ETC.)

MATERIAL CODES: ST = CARBON STEEL. SQ = 17-7 PH/C STAINLESS STEEL. SPECIAL ALLOYS AVAILABLE UPON REQUEST.

WSL, WSM, WSR Wave Springs

Multi Turn, Inch

Used for low to medium force applications with greater travel compared to single-turn springs. Utilizes nearly half the space as helical compression springs while producing the same force.



Wave Spring Measurements

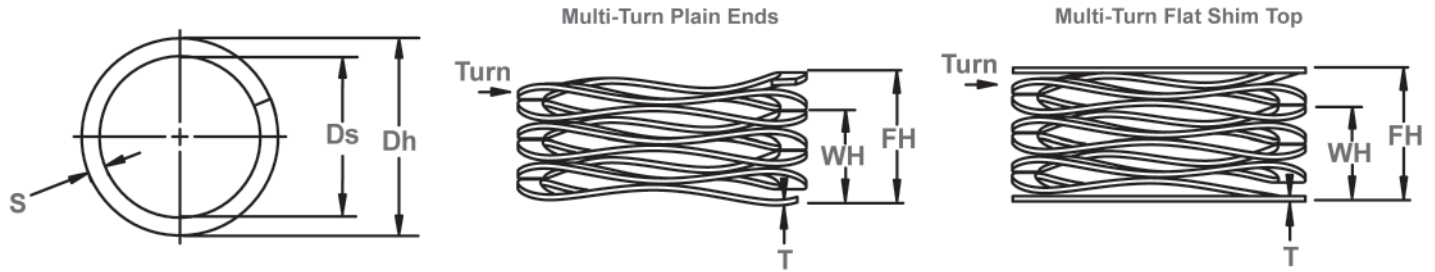
WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm									
	Ds			T		S						
WSM-150 A	1.500	1-1/2	38.1	1.140	35	.122	.300	3.5	3	.018	.133	197
WSM-150 B	1.500	1-1/2	38.1	1.140	35	.158	.400	3.5	4	.018	.133	145
WSM-150 C	1.500	1-1/2	38.1	1.140	35	.206	.500	3.5	5	.018	.133	119
WSM-150 D	1.500	1-1/2	38.1	1.140	35	.241	.600	3.5	6	.018	.133	97
WSM-150 E	1.500	1-1/2	38.1	1.140	35	.291	.700	3.5	7	.018	.133	86
WSM-150 F	1.500	1-1/2	38.1	1.140	35	.324	.800	3.5	8	.018	.133	74
WSM-150 G	1.500	1-1/2	38.1	1.140	35	.409	1.000	3.5	10	.018	.133	59
WSM-150 H	1.500	1-1/2	38.1	1.140	35	.540	1.300	3.5	13	.018	.133	46
WSM-150 I	1.500	1-1/2	38.1	1.140	35	.657	1.600	3.5	16	.018	.133	37
WSM-150 J	1.500	1-1/2	38.1	1.140	35	.835	2.000	3.5	20	.018	.133	30
WSR-150 A	1.500	1-1/2	38.1	1.140	60	.166	.300	4.5	3	.018	.133	448
WSR-150 B	1.500	1-1/2	38.1	1.140	60	.216	.400	4.5	4	.018	.133	326
WSR-150 C	1.500	1-1/2	38.1	1.140	60	.278	.500	4.5	5	.018	.133	270
WSR-150 D	1.500	1-1/2	38.1	1.140	60	.329	.600	4.5	6	.018	.133	221
WSR-150 E	1.500	1-1/2	38.1	1.140	60	.390	.700	4.5	7	.018	.133	194
WSR-150 F	1.500	1-1/2	38.1	1.140	60	.443	.800	4.5	8	.018	.133	168
WSR-150 G	1.500	1-1/2	38.1	1.140	60	.555	1.000	4.5	10	.018	.133	135
WSR-150 H	1.500	1-1/2	38.1	1.140	60	.726	1.300	4.5	13	.018	.133	105
WSR-150 I	1.500	1-1/2	38.1	1.140	60	.890	1.600	4.5	16	.018	.133	85
WSR-150 J	1.500	1-1/2	38.1	1.140	60	1.119	2.000	4.5	20	.018	.133	68
WSL-175 A	1.750	1-3/4	44.4	1.340	25	.155	.375	3.5	3	.018	.143	114
WSL-175 B	1.750	1-3/4	44.4	1.340	25	.200	.500	3.5	4	.018	.143	83
WSL-175 C	1.750	1-3/4	44.4	1.340	25	.265	.625	3.5	5	.018	.143	69
WSL-175 D	1.750	1-3/4	44.4	1.340	25	.310	.750	3.5	6	.018	.143	57
WSL-175 E	1.750	1-3/4	44.4	1.340	25	.367	.870	3.5	7	.018	.143	50
WSL-175 F	1.750	1-3/4	44.4	1.340	25	.415	1.000	3.5	8	.018	.143	43
WSL-175 G	1.750	1-3/4	44.4	1.340	25	.523	1.250	3.5	10	.018	.143	34
WSL-175 H	1.750	1-3/4	44.4	1.340	25	.638	1.500	3.5	12	.018	.143	29
WSL-175 I	1.750	1-3/4	44.4	1.340	25	.737	1.750	3.5	14	.018	.143	25
WSL-175 J	1.750	1-3/4	44.4	1.340	25	.844	2.000	3.5	16	.018	.143	22
WSM-175 A	1.750	1-3/4	44.4	1.340	50	.188	.375	4.5	3	.018	.143	267
WSM-175 B	1.750	1-3/4	44.4	1.340	50	.244	.500	4.5	4	.018	.143	195
WSM-175 C	1.750	1-3/4	44.4	1.340	50	.315	.625	4.5	5	.018	.143	161
WSM-175 D	1.750	1-3/4	44.4	1.340	50	.374	.750	4.5	6	.018	.143	133
WSM-175 E	1.750	1-3/4	44.4	1.340	50	.452	.870	4.5	7	.018	.143	120
WSM-175 F	1.750	1-3/4	44.4	1.340	50	.505	1.000	4.5	8	.018	.143	101
WSM-175 G	1.750	1-3/4	44.4	1.340	50	.629	1.250	4.5	10	.018	.143	81
WSM-175 H	1.750	1-3/4	44.4	1.340	50	.768	1.500	4.5	12	.018	.143	68
WSM-175 I	1.750	1-3/4	44.4	1.340	50	.899	1.750	4.5	14	.018	.143	59
WSM-175 J	1.750	1-3/4	44.4	1.340	50	1.026	2.000	4.5	16	.018	.143	51

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MATERIAL CODES: ST = CARBON STEEL. SQ = 17-7 PH/C STAINLESS STEEL. SPECIAL ALLOYS AVAILABLE UPON REQUEST.



Wave Spring Measurements

WAVE SPRING NO.	PILOTS & OPERATES IN HOUSING DIAMETER			SHAFT DIAMETER CLEARANCE	LOAD (lbs.)	WORK HEIGHT	FREE HEIGHT Ref.	NUMBER OF WAVES	NUMBER OF TURNS	THICKNESS	SECTION	SPRING RATE Ref. Lb/in.
	Dh DEC	Dh FRAC	Dh mm			WH	FH			T	S	
				Ds								
WSR-175 A	1.750	1-3/4	44.4	1.340	90	.232	.375	4.5	3	.024	.148	629
WSR-175 B	1.750	1-3/4	44.4	1.340	90	.314	.500	4.5	4	.024	.148	484
WSR-175 C	1.750	1-3/4	44.4	1.340	90	.409	.625	4.5	5	.024	.148	417
WSR-175 D	1.750	1-3/4	44.4	1.340	90	.482	.750	4.5	6	.024	.148	336
WSR-175 E	1.750	1-3/4	44.4	1.340	90	.577	.870	4.5	7	.024	.148	307
WSR-175 F	1.750	1-3/4	44.4	1.340	90	.651	1.000	4.5	8	.024	.148	258
WSR-175 G	1.750	1-3/4	44.4	1.340	90	.813	1.250	4.5	10	.024	.148	206
WSR-175 H	1.750	1-3/4	44.4	1.340	90	.980	1.500	4.5	12	.024	.148	173
WSR-175 I	1.750	1-3/4	44.4	1.340	90	1.147	1.750	4.5	14	.024	.148	149
WSR-175 J	1.750	1-3/4	44.4	1.340	90	1.317	2.000	4.5	16	.024	.148	132
WSL-200 A	2.000	2	50.8	1.600	25	.094	.375	3.5	3	.018	.143	89
WSL-200 B	2.000	2	50.8	1.600	25	.120	.500	3.5	4	.018	.143	66
WSL-200 C	2.000	2	50.8	1.600	25	.158	.625	3.5	5	.018	.143	54
WSL-200 D	2.000	2	50.8	1.600	25	.179	.750	3.5	6	.018	.143	44
WSL-200 E	2.000	2	50.8	1.600	25	.217	.870	3.5	7	.018	.143	38
WSL-200 F	2.000	2	50.8	1.600	25	.243	1.000	3.5	8	.018	.143	33
WSL-200 G	2.000	2	50.8	1.600	25	.306	1.250	3.5	10	.018	.143	26
WSL-200 H	2.000	2	50.8	1.600	25	.365	1.500	3.5	12	.018	.143	22
WSL-200 I	2.000	2	50.8	1.600	25	.433	1.750	3.5	14	.018	.143	19
WSL-200 J	2.000	2	50.8	1.600	25	.490	2.000	3.5	16	.018	.143	17
WSM-200 A	2.000	2	50.8	1.600	50	.140	.375	4.5	3	.018	.143	213
WSM-200 B	2.000	2	50.8	1.600	50	.184	.500	4.5	4	.018	.143	158
WSM-200 C	2.000	2	50.8	1.600	50	.245	.625	4.5	5	.018	.143	132
WSM-200 D	2.000	2	50.8	1.600	50	.278	.750	4.5	6	.018	.143	106
WSM-200 E	2.000	2	50.8	1.600	50	.345	.870	4.5	7	.018	.143	95
WSM-200 F	2.000	2	50.8	1.600	50	.395	1.000	4.5	8	.018	.143	83
WSM-200 G	2.000	2	50.8	1.600	50	.498	1.250	4.5	10	.018	.143	66
WSM-200 H	2.000	2	50.8	1.600	50	.593	1.500	4.5	12	.018	.143	55
WSM-200 I	2.000	2	50.8	1.600	50	.694	1.750	4.5	14	.018	.143	47
WSM-200 J	2.000	2	50.8	1.600	50	.800	2.000	4.5	16	.018	.143	42
WSR-200 A	2.000	2	50.8	1.600	90	.197	.375	4.5	3	.024	.148	506
WSR-200 B	2.000	2	50.8	1.600	90	.258	.500	4.5	4	.024	.148	372
WSR-200 C	2.000	2	50.8	1.600	90	.332	.625	4.5	5	.024	.148	307
WSR-200 D	2.000	2	50.8	1.600	90	.389	.750	4.5	6	.024	.148	249
WSR-200 E	2.000	2	50.8	1.600	90	.465	.870	4.5	7	.024	.148	222
WSR-200 F	2.000	2	50.8	1.600	90	.525	1.000	4.5	8	.024	.148	189
WSR-200 G	2.000	2	50.8	1.600	90	.661	1.250	4.5	10	.024	.148	153
WSR-200 H	2.000	2	50.8	1.600	90	.781	1.500	4.5	12	.024	.148	125
WSR-200 I	2.000	2	50.8	1.600	90	.941	1.750	4.5	14	.024	.148	111
WSR-200 J	2.000	2	50.8	1.600	90	1.069	2.000	4.5	16	.024	.148	97

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