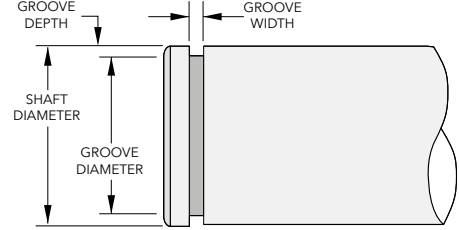
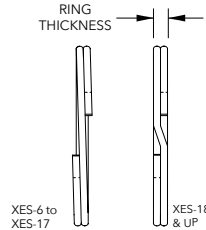
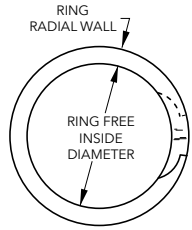




XES Series

Spirolox® Metric Aerospace Rings External

*Compliance with MA 4016



Product Dimensions: All dimensions in millimeters unless otherwise specified.

TFC Part Number			Shaft Diameter		Ring			Groove		Thrust Capacity	
Carbon Steel	Add Suffix		mm	in	Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)	Groove Yield ¹ (N)	Ring Shear ² (N)
	302 SS	316 SS									
XES-6 ^{3,4}	-S02	-S16	6,00	0,236	5,61	0,38 - 0,58	0,64	5,66	0,74	500	3,160
XES-7 ^{3,4}	-S02	-S16	7,00	0,276	6,53	0,51 - 0,71	0,64	6,58	0,74	720	3,690
XES-8 ^{3,4}	-S02	-S16	8,00	0,315	7,49	0,51 - 0,71	0,64	7,57	0,74	840	4,210
XES-9 ^{3,4}	-S02	-S16	9,00	0,354	8,41	0,64 - 0,84	0,64	8,48	0,74	1,140	4,740
XES-10 ^{3,4}	-S02	-S16	10,00	0,394	9,40	0,64 - 0,84	0,64	9,50	0,74	1,220	5,270
XES-11 ⁴	-S02	-S16	11,00	0,433	10,39	0,76 - 0,96	0,64	10,46	0,74	1,450	5,790
XES-12	-S02	-S16	12,00	0,472	11,18	1,02 - 1,22	0,60	11,29	0,70	2,100	7,950
XES-13	-S02	-S16	13,00	0,512	12,13	1,14 - 1,35	0,89	12,24	1,00	2,410	12,100
XES-14	-S02	-S16	14,00	0,551	13,06	1,14 - 1,35	0,89	13,19	1,00	2,800	13,040
XES-15	-S02	-S16	15,00	0,591	13,98	1,14 - 1,35	0,89	14,09	1,00	3,360	13,970
XES-16	-S02	-S16	16,00	0,630	14,90	1,27 - 1,48	0,89	15,02	1,00	3,820	14,900
XES-17	-S02	-S16	17,00	0,669	15,82	1,27 - 1,48	0,89	16,02	1,00	4,060	15,830
XES-18	-S02	-S16	18,00	0,709	16,80	1,52 - 1,73	1,07	16,92	1,20	4,730	20,150
XES-19	-S02	-S16	19,00	0,748	17,73	1,52 - 1,73	1,07	17,87	1,20	5,270	21,270
XES-20	-S02	-S16	20,00	0,787	18,62	1,52 - 1,73	1,07	18,77	1,20	6,040	22,390
XES-21	-S02	-S16	21,00	0,827	19,57	1,52 - 1,73	1,07	19,72	1,20	6,550	23,510
XES-22	-S02	-S16	22,00	0,866	20,45	1,78 - 1,98	1,07	20,62	1,20	7,390	24,630
XES-23	-S02	-S16	23,00	0,906	21,39	1,78 - 1,98	1,07	21,57	1,20	8,070	25,750
XES-24	-S02	-S16	24,00	0,945	22,35	2,03 - 2,24	1,07	22,52	1,20	8,650	26,870
XES-25	-S02	-S16	25,00	0,984	23,25	2,03 - 2,24	1,07	23,42	1,20	9,620	27,990
XES-26	-S02	-S16	26,00	1,024	24,21	2,49 - 2,69	1,27	24,42	1,20	10,000	29,110
XES-27	-S02	-S16	27,00	1,063	25,04	2,49 - 2,69	1,27	25,35	1,40	10,910	31,170
XES-28	-S02	-S16	28,00	1,102	26,00	2,49 - 2,69	1,27	26,30	1,40	11,590	32,330
XES-29	-S02	-S16	29,00	1,142	26,95	2,49 - 2,69	1,27	27,27	1,40	12,290	33,480
XES-30	-S02	-S16	30,00	1,181	27,92	2,49 - 2,69	1,27	28,25	1,40	12,860	34,640
XES-31	-S02	-S16	31,00	1,220	28,84	2,49 - 2,69	1,27	29,17	1,40	13,890	35,790
XES-32	-S02	-S16	32,00	1,260	29,77	2,49 - 2,69	1,27	30,09	1,40	14,960	36,950
XES-34	-S02	-S16	34,00	1,339	31,54	2,87 - 3,07	1,27	31,90	1,40	17,390	39,260
XES-35	-S02	-S16	35,00	1,378	32,44	2,87 - 3,07	1,27	32,80	1,40	18,750	40,410
XES-36	-S02	-S16	36,00	1,417	33,40	2,87 - 3,07	1,27	33,75	1,40	19,810	41,560
XES-37	-S02	-S16	37,00	1,457	34,24	2,87 - 3,07	1,27	34,67	1,40	21,080	42,720
XES-38	-S02	-S16	38,00	1,496	35,18	2,87 - 3,07	1,27	35,66	1,40	21,650	43,870
XES-40	-S02	-S16	40,00	1,575	37,15	3,12 - 3,33	1,57	37,55	1,75	23,960	57,090
XES-42	-S02	-S16	42,00	1,654	39,02	3,12 - 3,33	1,57	39,45	1,75	26,180	59,990
XES-45	-S02	-S16	45,00	1,772	41,77	3,12 - 3,33	1,57	42,25	1,75	30,240	64,230
XES-46	-S02	-S16	46,00	1,811	42,67	3,12 - 3,33	1,57	43,15	1,75	32,040	65,660
XES-47	-S02	-S16	47,00	1,850	43,81	3,89 - 4,09	1,57	44,31	1,75	30,900	67,080
XES-48	-S02	-S16	48,00	1,890	44,48	3,89 - 4,09	1,57	45,05	1,75	34,600	68,510
XES-50	-S02	-S16	50,00	1,969	46,69	3,89 - 4,09	1,57	47,05	1,75	36,040	71,370
XES-52	-S02	-S16	52,00	2,047	49,62	3,12 - 3,33	1,25	50,15	1,42	23,550	59,090
XES-53	-S02	-S16	53,00	2,087	50,62	3,12 - 3,33	1,25	51,15	1,42	24,000	60,230
XES-54	-S02	-S16	54,00	2,126	51,62	3,12 - 3,33	1,25	52,15	1,42	24,460	61,370
XES-55	-S02	-S16	55,00	2,165	52,62	3,38 - 3,58	1,25	53,15	1,42	24,910	62,500
XES-56	-S02	-S16	56,00	2,205	53,62	3,38 - 3,58	1,25	54,15	1,42	25,370	63,640
XES-58	-S02	-S16	58,00	2,283	55,43	3,38 - 3,58	1,25	56,01	1,42	28,250	65,910
XES-59	-S02	-S16	59,00	2,323	56,43	3,38 - 3,58	1,25	57,01	1,42	28,730	67,050
XES-60	-S02	-S16	60,00	2,362	57,43	3,38 - 3,58	1,25	58,01	1,42	29,220	68,180
XES-61	-S02	-S16	61,00	2,402	58,36	3,38 - 3,58	1,25	58,91	1,42	31,190	69,320
XES-62	-S02	-S16	62,00	2,441	59,30	3,63 - 3,84	1,25	59,91	1,42	31,710	70,460
XES-63	-S02	-S16	63,00	2,480	60,30	3,63 - 3,84	1,25	60,91	1,42	32,220	71,590

¹ Based on a groove material yield strength of 310 N/mm² and a safety factor of 2.

² Based on a safety factor of 3.

³ No removal notch.

⁴ Square edge wire.

* Contact TFC for details/information on how to order parts to be in compliance with this specification.



Spirolox® Metric Aerospace Rings External Continued

TFC Part Number			Shaft Diameter		Ring			Groove		Thrust Capacity	
Carbon Steel	Add Suffix		mm	in	Inside Diameter (mm)	Radial Wall (mm)	Thickness (mm)	Diameter (mm)	Width (mm)	Groove Yield ¹ (N)	Ring Shear ² (N)
	302 SS	316 SS									
XES-64	-S02	-S16	64,00	2,520	61,25	3,63 - 3,84	1,25	61,91	1,42	32,730	72,730
XES-65	-S02	-S16	65,00	2,559	62,20	3,63 - 3,84	1,25	62,81	1,42	34,820	73,870
XES-66	-S02	-S16	66,00	2,598	63,16	3,63 - 3,84	1,25	63,79	1,42	35,680	75,000
XES-67	-S02	-S16	67,00	2,638	64,16	3,63 - 3,84	1,25	64,71	1,42	37,530	76,140
XES-68	-S02	-S16	68,00	2,677	65,08	3,89 - 4,09	1,25	65,71	1,42	38,090	77,270
XES-69	-S02	-S16	69,00	2,717	66,06	3,89 - 4,09	1,25	66,71	1,42	38,650	78,410
XES-70	-S02	-S16	70,00	2,756	67,08	3,89 - 4,09	1,25	67,71	1,42	39,210	79,550
XES-71	-S02	-S16	71,00	2,795	68,04	3,89 - 4,09	1,25	68,71	1,42	39,770	80,680
XES-72	-S02	-S16	72,00	2,835	69,00	4,11 - 4,37	1,25	69,65	1,42	41,380	81,820
XES-75	-S02	-S16	75,00	2,953	71,93	4,11 - 4,37	1,25	72,61	1,42	43,830	85,230
XES-78	-S02	-S16	78,00	3,071	74,84	4,11 - 4,37	1,55	75,55	1,73	46,730	109,910
XES-80	-S02	-S16	80,00	3,150	76,80	4,37 - 4,62	1,55	77,51	1,73	48,700	112,730
XES-82	-S02	-S16	82,00	3,228	78,72	4,37 - 4,62	1,55	79,45	1,73	51,120	115,550
XES-85	-S02	-S16	85,00	3,346	81,62	4,62 - 4,88	1,55	82,35	1,73	55,060	119,780
XES-88	-S02	-S16	88,00	3,465	84,53	4,62 - 4,88	1,55	85,31	1,73	57,860	124,000
XES-90	-S02	-S16	90,00	3,543	86,43	4,88 - 5,13	1,55	87,21	1,73	61,370	126,820
XES-95	-S02	-S16	95,00	3,740	91,37	4,88 - 5,13	1,55	92,15	1,73	66,160	133,870
XES-100	-S02	-S16	100,00	3,937	96,10	5,13 - 5,38	1,55	97,01	1,73	73,050	140,910
XES-105	-S02	-S16	105,00	4,134	100,94	5,38 - 5,64	1,55	101,85	1,73	80,780	147,960
XES-110	-S02	-S16	110,00	4,331	105,75	5,64 - 5,89	1,55	106,69	1,73	88,930	155,000
XES-115	-S02	-S16	115,00	4,528	110,59	5,89 - 6,15	1,55	111,55	1,73	96,890	162,050
XES-120	-S02	-S16	120,00	4,724	115,49	6,20 - 6,45	1,83	116,45	2,00	104,030	199,640
XES-125	-S02	-S16	125,00	4,921	120,44	6,20 - 6,45	1,83	121,45	2,00	108,360	207,960
XES-130	-S02	-S16	130,00	5,118	125,34	6,20 - 6,45	1,83	126,35	2,00	115,860	216,280
XES-135	-S02	-S16	135,00	5,315	130,20	6,20 - 6,45	1,83	131,27	2,00	122,950	224,600
XES-140	-S02	-S16	140,00	5,512	135,14	6,20 - 6,45	1,83	136,25	2,00	128,190	232,920
XES-145	-S02	-S16	145,00	5,709	140,00	6,20 - 6,45	1,83	141,17	2,00	135,590	241,230
XES-150	-S02	-S16	150,00	5,906	145,00	6,20 - 6,45	1,83	146,17	2,00	140,260	249,550
XES-155	-S02	-S16	155,00	6,102	149,33	7,72 - 8,03	2,18	150,60	2,40	166,080	307,190
XES-160	-S02	-S16	160,00	6,299	154,31	7,72 - 8,03	2,18	155,60	2,40	171,430	317,100
XES-165	-S02	-S16	165,00	6,496	159,23	7,72 - 8,03	2,18	160,60	2,40	176,790	327,010
XES-170	-S02	-S16	170,00	6,693	164,00	7,72 - 8,03	2,18	165,40	2,40	190,430	336,920
XES-175	-S02	-S16	175,00	6,890	169,00	7,72 - 8,03	2,18	170,40	2,40	196,030	346,830
XES-180	-S02	-S16	180,00	7,087	173,78	7,72 - 8,03	2,18	175,20	2,40	210,400	356,740
XES-185	-S02	-S16	185,00	7,283	178,70	7,72 - 8,03	2,18	180,20	2,40	216,240	366,650
XES-190	-S02	-S16	190,00	7,480	183,70	7,72 - 8,03	2,18	185,20	2,40	220,080	376,560
XES-195	-S02	-S16	195,00	7,677	188,43	7,72 - 8,03	2,18	190,00	2,40	237,420	386,460
XES-200	-S02	-S16	200,00	7,874	193,43	7,72 - 8,03	2,18	195,00	2,40	243,510	396,370
XES-210	-S02	-S16	210,00	8,268	202,93	9,32 - 9,63	2,18	204,60	2,40	276,140	416,190
XES-220	-S02	-S16	220,00	8,661	212,65	9,32 - 9,63	2,18	214,40	2,40	300,010	436,010
XES-230	-S02	-S16	230,00	9,055	222,60	9,32 - 9,63	2,18	224,40	2,40	313,640	455,830
XES-240	-S02	-S16	240,00	9,449	232,32	9,32 - 9,63	2,18	234,20	2,40	328,970	475,650
XES-250	-S02	-S16	250,00	9,843	241,83	9,32 - 9,63	2,18	243,80	2,40	377,440	495,470
XES-260	-S02	-S16	260,00	10,236	251,57	9,32 - 9,63	2,18	253,60	2,40	405,210	515,290
XES-270	-S02	-S16	270,00	10,630	261,30	9,32 - 9,63	2,18	263,40	2,40	433,940	535,100
XES-280	-S02	-S16	280,00	11,024	271,04	9,32 - 9,63	2,18	273,20	2,40	463,650	554,920

¹ Based on a groove material yield strength of 310 N/mm² and a safety factor of 2.
² Based on a safety factor of 3.

* Contact TFC for details/information on how to order parts to be in compliance with this specification.