

SUPERFLEX™
*High-Performance
Urethane Rod Seal*

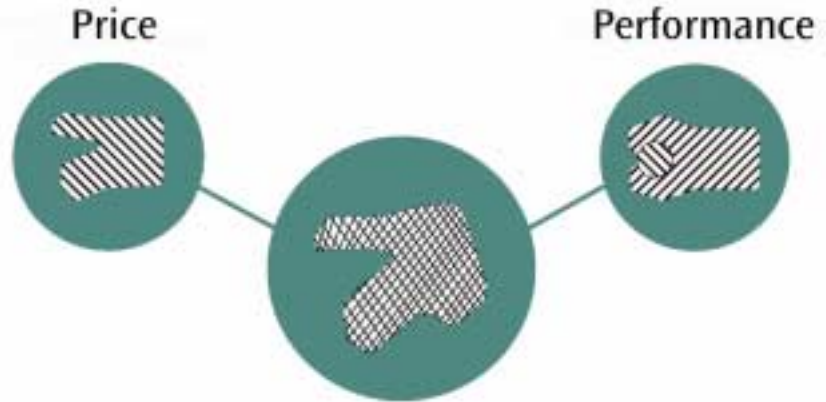
SUPERFLEX is the first unloaded U-cup that beats loaded U-cups in price and performance! Here's why SUPERFLEX beats loaded U-cups:

Our proprietary urethane has the lowest compression set in the industry. We created a unique geometry utilizing FEA to optimize the performance. This effort resulted in a seal that combines:

1. Optimized squeeze and lubrication pockets for dry performance and low friction.
2. Unique heel angle for contamination resistance.
3. Secondary lip seal for excellent low-temperature performance.
4. Rugged proprietary urethane for long life.

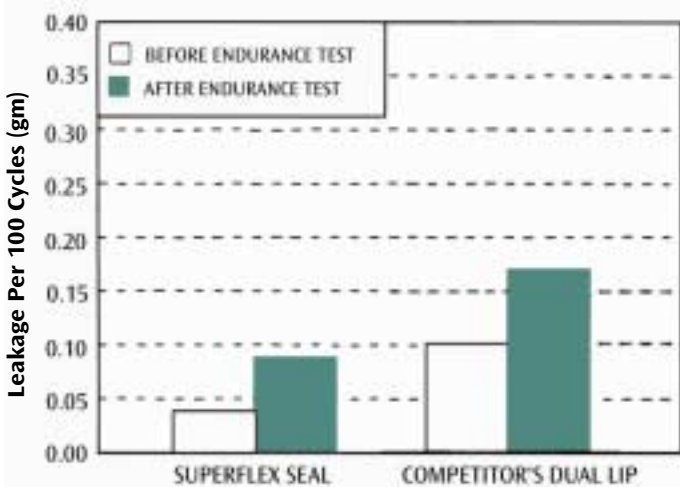
SUPERFLEX is a thoroughly proven product. Documented dynamic testing has established the performance advantages provided by SUPERFLEX. Testing here and

abroad included cold startup, endurance testing with pressure spikes, breakaway and running friction, and contamination prevention.

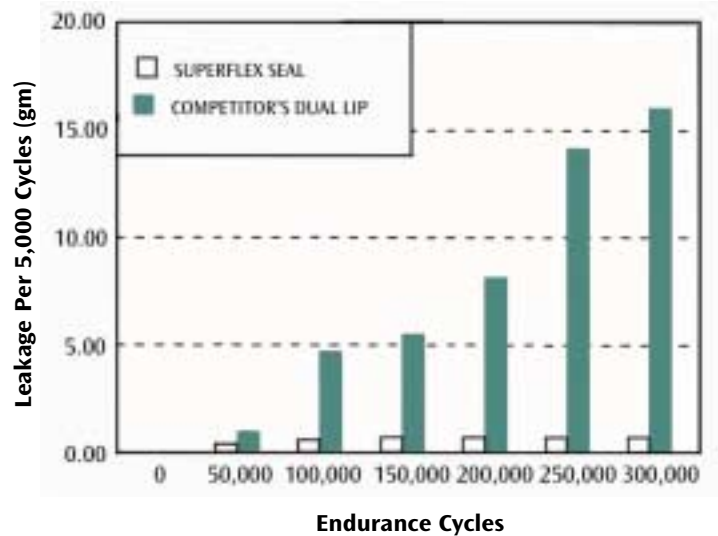


SUPERFLEX FOR THE BEST OF BOTH!!
U.S. Patent #5,431,415
German Patent Pending

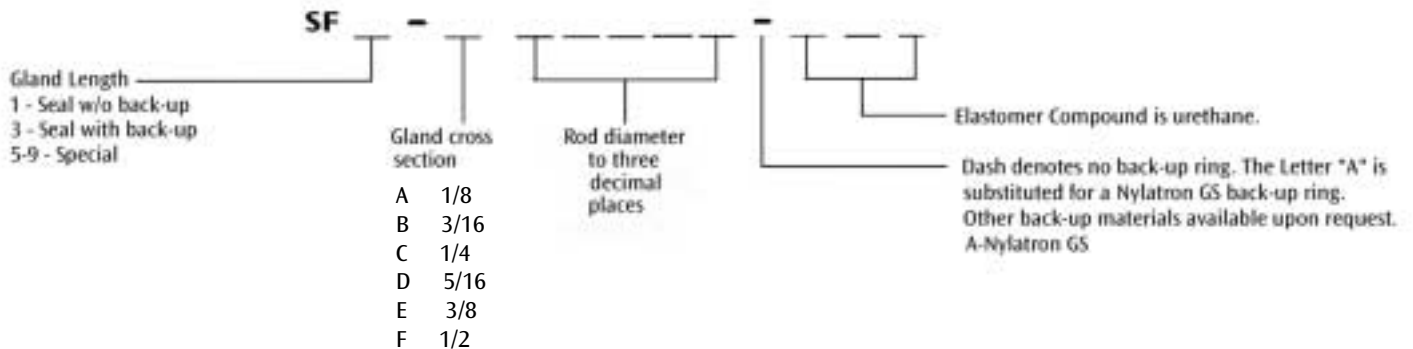
Low Temperature Leakage Performance
Average Leakage Before and After 300,000 Cycles @ -40F



Endurance Test Comparison of Dynamic Seals
Average Leakage @ 200F



PART NUMBERING SYSTEM - INCH SERIES



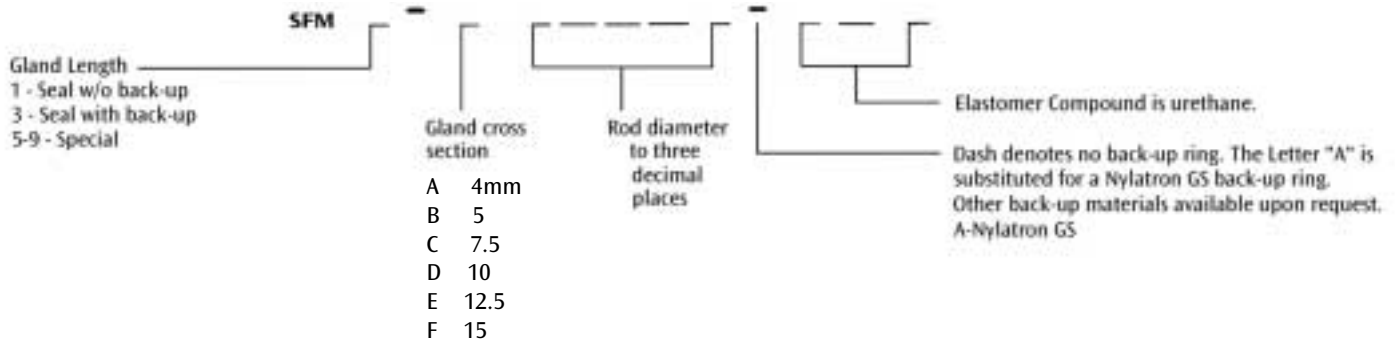
INCH SERIES WITHOUT BACK-UP

NOMINAL SEAL DIMENSIONS	ROD DIA. +.000 -0.002	GLAND DIA. +.002 -0.000	GLAND LENGTH +.015 -0.000	ORDER PART NUMBER
1/8 INCH GLAND CROSS-SECTION				
0.218 x 0.469 x 0.200	0.218	0.469	0.200	SF5-A00218-320
0.250 x 0.500 x 0.187	0.250	0.500	0.187	SF1-A00250-320
0.375 x 0.625 x 0.187	0.375	0.625	0.187	SF1-A00375-320
0.500 x 0.750 x 0.187	0.500	0.750	0.187	SF1-A00500-320
0.750 x 1.000 x 0.187	0.750	1.000	0.187	SF1-A00750-320
1.125 x 1.375 x 0.187	1.125	1.375	0.187	SF1-A01125-320
1.250 x 1.489 x 0.208	1.250	1.489	0.208	SF5-A01250-320
3/16 INCH GLAND CROSS-SECTION				
1.125 x 1.500 x 0.340	1.125	1.500	0.340	SF5-B01125-320
1.125 x 1.500 x 0.309	1.126	1.500	0.309	SF5-B01126-320
1.250 x 1.625 x 0.309	1.252	1.625	0.309	SF5-B01251-320
1.500 x 1.875 x 0.309	1.495	1.870	0.309	SF5-B01495-320
1.626 x 2.000 x 0.309	1.626	2.000	0.309	SF5-B01626-320
1.750 x 2.125 x 0.309	1.750	2.125	0.309	SF5-B01750-320
3.250 x 3.625 x 0.280	3.250	3.625	0.280	SF1-B03250-320
1/4 INCH GLAND CROSS-SECTION				
1.250 x 1.750 x 0.425	1.250	1.750	0.425	SF5-C01250-320
2.000 x 2.500 x 0.375	2.000	2.500	0.375	SF1-C02000-320
2.250 x 2.750 x 0.375	2.250	2.750	0.375	SF1-C02250-320
2.500 x 3.000 x 0.375	2.500	3.000	0.375	SF1-C02500-320
3.000 x 3.500 x 0.413	3.000	3.500	0.413	SF5-C03000-320
3.375 x 3.875 x 0.375	3.375	3.875	0.375	SF1-C03375-320
3.465 x 3.965 x 0.375	3.465	3.965	0.375	SF5-C03465-320
3.500 x 4.000 x 0.375	3.500	4.000	0.375	SF1-C03500-320
3.500 x 4.000 x 0.415	3.500	4.000	0.415	SF5-C03500-320
4.250 x 4.750 x 0.375	4.250	4.750	0.375	SF1-C04250-320
5/16 INCH GLAND CROSS-SECTION				
2.500 x 3.125 x 0.470	2.500	3.125	0.470	SF1-D02500-320
2.500 x 4.125 x 0.470	3.500	4.125	0.470	SF1-D03500-320

INCH SERIES WITH NYLON BACK-UP RING

NOMINAL SEAL DIMENSIONS	ROD DIA. +.000 -0.002	GLAND DIA. +.002 -0.000	GLAND LENGTH +.015 -0.000	ORDER PART NUMBER
1/8 INCH GLAND CROSS-SECTION				
0.218 x 0.469 x 0.200	0.218	0.469	0.248	SF5-A00218A320
0.250 x 0.500 x 0.187	0.250	0.500	0.235	SF3-A00250A320
0.375 x 0.625 x 0.187	0.375	0.625	0.235	SF3-A00375A320
0.500 x 0.750 x 0.187	0.500	0.750	0.235	SF3-A00500A320
0.750 x 1.000 x 0.187	0.750	1.000	0.235	SF3-A00750A320
1.125 x 1.375 x 0.187	1.125	1.375	0.235	SF3-A01124A320
1.250 x 1.489 x 0.208	1.250	1.489	0.256	SF5-A01250A320
3/16 INCH GLAND CROSS-SECTION				
1.125 x 1.500 x 0.340	1.125	1.500	0.410	SF5-B01125A320
1.125 x 1.500 x 0.309	1.125	1.500	0.380	SF5-B01126A320
1.250 x 1.625 x 0.309	1.250	1.625	0.380	SF5-B01251A320
1.500 x 1.875 x 0.309	1.500	1.875	0.380	SF5-B01495A320
1.626 x 2.000 x 0.309	1.626	2.000	0.380	SF5-B01626A320
1.750 x 2.125 x 0.309	1.750	2.125	0.380	SF5-B01750A320
3.250 x 3.625 x 0.280	3.250	3.625	0.350	SF3-B03250A320
1/4 INCH GLAND CROSS-SECTION				
1.250 x 1.750 x 0.425	1.250	1.750	0.530	SF5-C01250A320
2.000 x 2.500 x 0.375	2.000	2.500	0.480	SF3-C02000A320
2.250 x 2.750 x 0.375	2.250	2.750	0.480	SF3-C02250A320
2.500 x 3.000 x 0.375	2.500	3.000	0.480	SF3-C02500A320
3.000 x 3.500 x 0.413	3.000	3.500	0.520	SF5-C03000A320
3.375 x 3.875 x 0.375	3.375	3.875	0.480	SF3-C03375A320
3.465 x 3.965 x 0.375	3.465	3.965	0.480	SF5-C03465A320
3.500 x 4.000 x 0.375	3.500	4.000	0.480	SF3-C03500A320
3.500 x 4.000 x 0.415	3.500	4.000	0.520	SF5-C03500A320
4.250 x 4.750 x 0.375	4.250	4.750	0.480	SF3-C04250A320
5/16 INCH GLAND CROSS-SECTION				
2.500 x 3.125 x 0.470	2.500	3.125	0.610	SF3-D02500A320
2.500 x 4.125 x 0.470	3.500	4.125	0.610	SF3-D03500A320

PART NUMBERING SYSTEM - METRIC SERIES



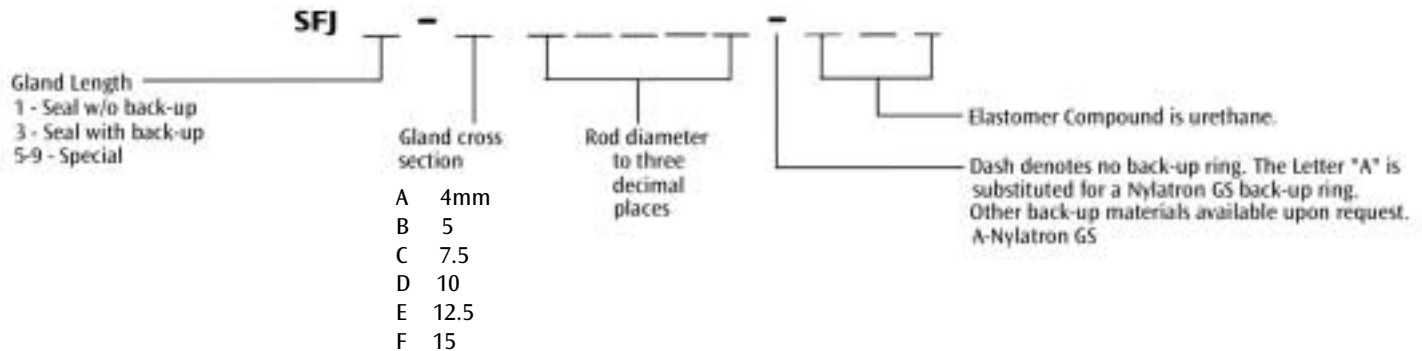
ISO METRIC SERIES WITHOUT BACK-UP Fits ISO-5597 Medium Glands

NOMINAL SEAL DIMENSIONS	ROD DIA. 18	GLAND DIA. h10	GLAND LENGTH +0.25 -0.00	ORDER PART NUMBER
4MM GLAND CROSS-SECTION				
36MM x 44MM x 6MM	36	44	5.8	SFM5-A03600-320
5MM GLAND CROSS-SECTION				
32MM x 42MM x 8MM	32	42	8	SFM1-B03200-320
40MM x 50MM x 8MM	40	50	8	SFM1-B04000-320
45MM x 55MM x 8MM	45	55	8	SFM5-B04500-320
50MM x 60MM x 8MM	50	60	8	SFM5-B05000-320
56MM x 66MM x 8MM	56	66	8	SFM6-B05600-320
70MM x 80MM x 8MM	70	80	8	SFM5-B07000-320
80MM x 90MM x 8MM	80	90	8	SFM1-B08000-320
80MM x 90MM x 8MM	80	90	8	SFM5-B08000-320
85MM x 95MM x 8MM	85	95	9.5	SFM5-B08500-320
7.5MM GLAND CROSS-SECTION				
50MM x 65MM x 12.5MM	50	65	12.5	SFM1-C05000-320
63MM x 78MM x 12.5MM	63	78	12.5	SFM6-C06300-320
75MM x 90MM x 12.5MM	75	90	12.5	SFM1-C07500-320
85MM x 100MM x 12.5MM	85	100	12.5	SFM1-C08500-320
95MM x 110MM x 12.5MM	95	110	12.5	SFM1-C09500-320
101MM x 116MM x 12.5MM	101	116	12.5	SFM5-C10100-320
10MM GLAND CROSS-SECTION				
105MM x 125MM x 14.4MM	105	125	14.4	SFM5-D10500-320
110MM x 130MM x 16MM	110	130	16	SFM1-D11000-320
130MM x 150MM x 16MM	130	150	16	SFM1-D13000-320

METRIC SERIES WITH NYLON BACK-UP For ISO Metric Refer to SFJ with back-up

NOMINAL SEAL DIMENSIONS	ROD DIA. 18	GLAND DIA. h10	GLAND LENGTH +0.25 -0.00	ORDER PART NUMBER
4MM GLAND CROSS-SECTION				
36MM x 44MM x 6MM	36	44	7.5	SFM5-A03600A320
5MM GLAND CROSS-SECTION				
32MM x 42MM x 8MM	32	42	9.7	SFM3-B03200A320
40MM x 50MM x 8MM	40	50	9.7	SFM3-B04000A320
45MM x 55MM x 8MM	45	55	9.7	SFM5-B04500A320
50MM x 60MM x 8MM	50	60	9.7	SFM5-B05000A320
56MM x 66MM x 8MM	56	66	9.7	SFM6-B05600A320
70MM x 80MM x 8MM	70	80	9.7	SFM5-B07000A320
80MM x 90MM x 8MM	80	90	9.7	SFM3-B08000A320
80MM x 90MM x 8MM	80	90	9.7	SFM5-B08000A320
85MM x 95MM x 8MM	85	95	11.2	SFM5-B08500A320
7.5MM GLAND CROSS-SECTION				
50MM x 65MM x 12.5MM	50	65	16	SFM3-C05000A320
63MM x 78MM x 12.5MM	63	78	15.2	SFM6-C06300A320
75MM x 90MM x 12.5MM	75	90	15.2	SFM3-C07500A320
85MM x 100MM x 12.5MM	85	100	15.2	SFM3-C08500A320
95MM x 110MM x 12.5MM	95	110	15.2	SFM3-C09500A320
101MM x 116MM x 12.5MM	101	116	15.2	SFM5-C10100A320
10MM GLAND CROSS-SECTION				
105MM x 125MM x 14.4MM	105	125	16	SFM5-D10500A320
110MM x 130MM x 16MM	110	130	19.5	SFM3-D11000A320
130MM x 150MM x 16MM	130	150	19.5	SFM3-D13000A320

PART NUMBERING SYSTEM - JAPANESE SERIES



JAPANESE METRIC SERIES WITHOUT BACK-UP Fits ISO-5597 Short Glands

NOMINAL SEAL DIMENSIONS	ROD DIA. 18	GLAND DIA. h10	GLAND LENGTH +0.25 -0.00	ORDER PART NUMBER
5MM GLAND CROSS-SECTION				
25MM x 33.35MM x 5.5MM	25	33.35	5.5	SFJ5-B02500-320
50MM x 60MM x 6.3MM	50	60	6.3	SFJ1-B05000-320
7.5MM GLAND CROSS-SECTION				
50MM x 65MM x 9.5MM	50	65	9.5	SFJ1-C05000-320
55MM x 70MM x 9.5MM	55	70	9.5	SFJ1-C05500-320
60MM x 75MM x 9.5MM	60	75	9.5	SFJ1-C06000-320
63MM x 78MM x 9.5MM	63	78	9.5	SFJ1-C06300-320
65MM x 80MM x 9.5MM	65	80	9.5	SFJ1-C06500-320
70MM x 85MM x 9.5MM	70	85	9.5	SFJ1-C07000-320
75MM x 90MM x 9.5MM	75	90	9.5	SFJ1-C07500-320
80MM x 95MM x 9.5MM	80	95	9.5	SFJ1-C08000-320
85MM x 100MM x 9.5MM	85	100	9.5	SFJ1-C08500-320
90MM x 105MM x 9.5MM	90	105	9.5	SFJ1-C09000-320
100MM x 115MM x 9.5MM	100	115	9.5	SFJ1-C10000-320
110MM x 125MM x 9.5MM	110	125	9.5	SFJ1-C11000-320
10MM GLAND CROSS-SECTION				
65MM x 85MM x 12.5MM	65	85	12.5	SFJ1-D06500-320
70MM x 90MM x 12.5MM	70	90	12.5	SFJ1-D07000-320
75MM x 95MM x 12.5MM	75	95	12.5	SFJ1-D07500-320
85MM x 105MM x 12.5MM	85	105	12.5	SFJ1-D08500-320
90MM x 110MM x 12.5MM	90	110	12.5	SFJ1-D09000-320
95MM x 115MM x 12.5MM	95	115	12.5	SFJ1-D09500-320
100MM x 120MM x 12.5MM	100	120	12.5	SFJ1-D10000-320
105MM x 125MM x 12.5MM	105	125	12.5	SFJ1-D10500-320
110MM x 130MM x 12.5MM	110	130	12.5	SFJ1-D11000-320
120MM x 140MM x 12.5MM	120	140	12.5	SFJ1-D12000-320
130MM x 150MM x 12.5MM	130	150	12.5	SFJ1-D13000-320
200MM x 220MM x 12.5MM	200	220	12.5	SFJ1-D20000-320
280MM x 300MM x 12.5MM	280	300	12.5	SFJ1-D28000-320
12.50MM GLAND CROSS-SECTION				
165MM x 190MM x 16MM	165	190	16	SFJ1-E16500-320

JAPANESE METRIC SERIES WITH BACK-UP Fits ISO-5597 Short Glands

NOMINAL SEAL DIMENSIONS	ROD DIA. 18	GLAND DIA. h10	GLAND LENGTH +0.25 -0.00	ORDER PART NUMBER
5MM GLAND CROSS-SECTION				
25MM x 33.35MM x 5.5MM	25	33.35	6.7	SFJ5-B02500A320
50MM x 60MM x 6.3MM	50	60	8	SFJ3-B05000A320
7.5MM GLAND CROSS-SECTION				
50MM x 65MM x 9.5MM	50	65	12.5	SFJ3-C05000A320
55MM x 70MM x 9.5MM	55	70	12.5	SFJ3-C05500A320
60MM x 75MM x 9.5MM	60	75	12.5	SFJ3-C06000A320
63MM x 78MM x 9.5MM	63	78	12.5	SFJ3-C06300A320
65MM x 80MM x 9.5MM	65	80	12.5	SFJ3-C06500A320
70MM x 85MM x 9.5MM	70	85	12.5	SFJ3-C07000A320
75MM x 90MM x 9.5MM	75	90	12.5	SFJ3-C07500A320
80MM x 95MM x 9.5MM	80	95	12.5	SFJ3-C08000A320
85MM x 100MM x 9.5MM	85	100	12.5	SFJ3-C08500A320
90MM x 105MM x 9.5MM	90	105	12.5	SFJ3-C09000A320
100MM x 115MM x 9.5MM	100	115	12.5	SFJ3-C10000A320
110MM x 125MM x 9.5MM	110	125	12.5	SFJ3-C11000A320
10MM GLAND CROSS-SECTION				
65MM x 85MM x 12.5MM	65	85	16	SFJ3-D06500A320
70MM x 90MM x 12.5MM	70	90	16	SFJ3-D07000A320
75MM x 95MM x 12.5MM	75	95	16	SFJ3-D07500A320
85MM x 105MM x 12.5MM	85	105	16	SFJ3-D08500A320
90MM x 110MM x 12.5MM	90	110	16	SFJ3-D09000A320
95MM x 115MM x 12.5MM	95	115	16	SFJ3-D09500A320
100MM x 120MM x 12.5MM	100	120	16	SFJ3-D10000A320
105MM x 125MM x 12.5MM	105	125	16	SFJ3-D10500A320
110MM x 130MM x 12.5MM	110	130	16	SFJ3-D11000A320
120MM x 140MM x 12.5MM	120	140	16	SFJ3-D12000A320
130MM x 150MM x 12.5MM	130	150	16	SFJ3-D13000A320
200MM x 220MM x 12.5MM	200	220	16	SFJ3-D20000A320
280MM x 300MM x 12.5MM	280	300	16	SFJ3-D28000A320
12.50MM GLAND CROSS-SECTION				
165MM x 190MM x 16MM	165	190	20	SFJ3-E16500A320