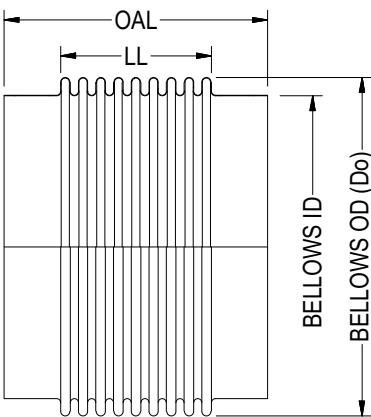




150 PSI SINGLE PLY BELLOWS
DATA SHEETS



150 PSI BELLOWS



ISOMETRIC VIEW

PART NUMBER	PIPE SIZE	BELLOWS ID	BELLOWS OD (Do)	LIVE LENGTH (LL)	OVERALL LENGTH (OAL)	AXIAL SPRING RATE (LBF/IN.)	LATERAL SPRING RATE (LBF/IN.)	ANGULAR SPRING RATE (FT. LBS/DEG.)	AXIAL MOVEMENT (IN.)	LATERAL MOVEMENT (IN.)	ANGULAR MOVEMENT (DEG.)	MAX. ALLOWABLE PRESSURE (PSIG)
959-150-0104	1	1.31	1.57	2.47	3.50	980	510	0.40	0.22	0.13	9.69	416
959-150-0106	1	1.31	1.57	4.48	5.00	928	147	0.30	0.33	0.34	6.11	219
959-150-1304	1.25	1.65	1.81	2.14	3.25	5,793	5,519	3.20	0.08	0.03	4.48	371
959-150-1306	1.25	1.65	1.81	4.34	5.50	2,896	690	1.60	0.16	0.13	5.33	371
959-150-1308	1.25	1.65	1.81	6.26	7.50	2,015	233	1.10	0.23	0.27	1.95	341
959-150-1504	1.5	2.00	2.60	1.85	3.00	1,421	3,172	1.40	0.28	0.08	10.76	371
959-150-1506	1.5	2.00	2.60	3.83	5.00	711	397	0.70	0.55	0.32	3.00	192
959-150-1508	1.5	2.00	2.50	5.52	6.50	838	214	0.80	0.58	0.49	1.00	158
959-150-0204	2	2.39	3.00	1.95	3.00	476	1,445	0.60	0.44	0.11	1.00	173
959-150-0206	2	2.38	3.00	3.59	4.50	615	555	0.80	0.62	0.28	1.00	179
959-150-2504	2.5	2.88	3.50	1.49	3.00	1,690	11,795	3.10	0.27	0.04	8.21	296
959-150-2506	2.5	2.88	3.50	2.86	3.50	901	1,787	1.70	0.50	0.15	6.00	296
959-150-0304	3	3.51	4.25	1.17	3.50	3,095	40,614	8.50	0.21	0.02	5.63	251
959-150-0306	3	3.51	4.25	3.50	4.25	823	1,563	2.30	0.61	0.19	3.00	236
959-150-0308	3	3.51	4.25	4.84	7.00	844	824	2.30	0.76	0.33	1.00	178
959-150-0312	3	3.50	4.25	6.98	11.00	1,123	530	3.10	0.85	0.53	1.00	167
959-150-3504	3.5	4.00	4.90	1.17	3.50	1,971	35,179	7.10	0.27	0.03	6.24	175
959-150-3506	3.5	4.00	4.90	3.00	5.25	845	2,769	3.00	0.63	0.15	3.00	175

NOTES:
1. MATERIAL: ASTM A-240 GRADE 304.
2. DESIGN TEMPERATURE: 300°F.
3. ALL MOVEMENTS ARE RATED FOR 5000 CYCLES NON CONCURRENT AS PER EJMA.

C

UPDATED AS PER COMMENTS

10/21/2024

UG

B

SHEET NO. 5 ADDED

10/18/2024

UG

A

FOR REVIEW

9/27/2024

UG

REV.

DESCRIPTION

DATE:

BY:

CHKD:

APPD:

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SHEET SIZE:

8.5" x 11"

DRAWN BY:

U GULATI

DATE:

9/27/2024

SCALE:

AS SHOWN

DRAWING NUMBER:

959-150-XXXX

SHEET#:

1 OF 5

REV.

C

Bellows Systems

CAGE CODE: 22727

BELLOWS SYSTEMS, INC.

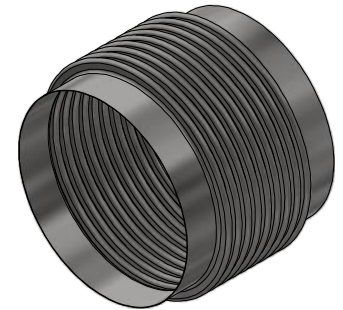
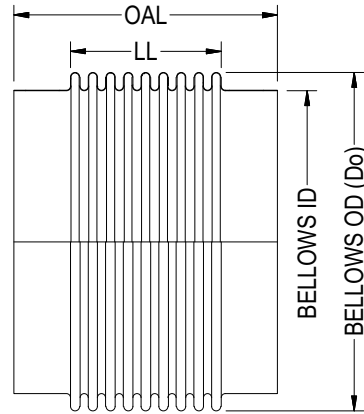
Houston, TX

www.bellows-systems.com

BELLOWS ELEMENT

150 PSIG

150 PSI BELLOWS



ISOMETRIC VIEW

PART NUMBER	PIPE SIZE	BELLOWS ID	BELLOWS OD (Do)	LIVE LENGTH (LL)	OVERALL LENGTH (OAL)	AXIAL SPRING RATE (LBF/IN.)	LATERAL SPRING RATE (LBF/IN.)	ANGULAR SPRING RATE (FT. LBS/DEG.)	AXIAL MOVEMENT (IN.)	LATERAL MOVEMENT (IN.)	ANGULAR MOVEMENT (DEG.)	MAX. ALLOWABLE PRESSURE (PSIG)
959-150-3508	3.5	4.00	4.90	5.31	6.50	938	1,018	3.40	0.87	0.36	1.00	182
959-150-0406	4	4.52	5.40	2.97	4.25	1,214	4,863	5.40	0.56	0.12	8.57	184
959-150-0408	4	4.54	5.50	4.83	4.50	952	1,593	4.40	0.85	0.29	1.00	202
959-150-0412	4	4.51	5.40	9.00	10.50	1,380	645	6.20	1.05	0.65	0.50	160
959-150-0415	4	4.45	5.40	11.20	14.00	4,177	1,217	18.40	0.81	0.62	9.06	390
959-150-0505	5	5.60	6.35	2.13	3.50	2,179	24,336	14.10	0.35	0.05	5.61	212
959-150-0506	5	5.58	6.50	2.33	3.50	5,449	49,245	36.10	0.30	0.04	5.17	327
959-150-0508	5	5.58	6.50	4.89	6.25	2,724	6,156	18.10	0.60	0.17	7.91	327
959-150-0512	5	5.58	6.50	8.47	10.00	1,603	1,253	10.60	1.01	0.49	2.00	197
959-150-0606	6	6.66	7.60	2.65	5.25	2,601	26,743	24.00	0.44	0.06	5.84	216
959-150-0608	6	6.65	7.60	4.32	6.50	1,720	7,003	15.90	0.68	0.14	7.01	213
959-150-0610	6	6.61	8.34	6.18	9.00	1,154	2,599	11.70	1.38	0.40	1.00	165
959-150-0612	6	6.65	7.70	6.00	7.25	3,243	6,986	30.40	0.73	0.21	8.05	355
959-150-0806	8	8.65	9.70	2.27	6.00	2,927	66,553	44.80	0.43	0.04	4.68	172
959-150-0808	8	8.65	9.70	4.32	7.50	1,622	11,116	24.80	0.78	0.13	6.25	172
959-150-0812	8	8.69	10.00	8.13	9.50	1,349	2,742	21.40	1.39	0.42	1.00	170
959-150-0818	8	8.59	10.50	14.06	15.50	2,883	2,070	48.30	1.78	0.90	3.00	181
959-150-0824	8	8.59	10.25	19.30	22.75	2,899	1,063	46.80	2.05	1.43	0.25	157

NOTES:

- MATERIAL: ASTM A-240 GRADE 304.
- DESIGN TEMPERATURE: 300°F.
- ALL MOVEMENTS ARE RATED FOR 5000 CYCLES NON CONCURRENT AS PER EJMA.

REV.	DESCRIPTION	DATE:	BY:	CHKD:	APPD:
C	UPDATED AS PER COMMENTS	10/21/2024	UG		
B	SHEET NO. 5 ADDED	10/18/2024	UG		
A	FOR REVIEW	9/27/2024	UG		

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SHEET SIZE:
8.5" x 11"



**Bellows
Systems**

CAGE CODE: 22727

BELLOWS SYSTEMS, INC.

Houston, TX
www.bellows-systems.com

BELLOWS ELEMENT
150 PSIG

DRAWN BY:

U GULATI

DATE:

9/27/2024

SCALE:

AS SHOWN

DRAWING
NUMBER:

959-150-XXXX

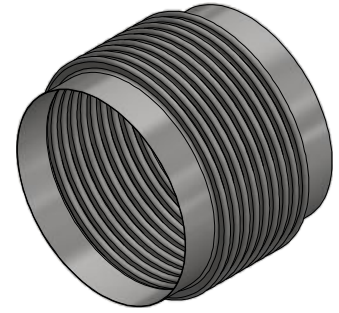
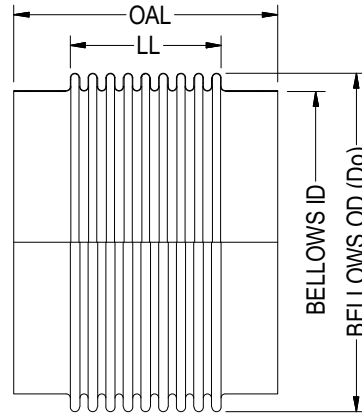
SHEET#:

2 OF 5

REV.

C

150 PSI BELLOWS



ISOMETRIC VIEW

PART NUMBER	PIPE SIZE	BELLOWS ID	BELLOWS OD (Do)	LIVE LENGTH (LL)	OVERALL LENGTH (OAL)	AXIAL SPRING RATE (LBF/IN.)	LATERAL SPRING RATE (LBF/IN.)	ANGULAR SPRING RATE (FT. LBS/DEG.)	AXIAL MOVEMENT (IN.)	LATERAL MOVEMENT (IN.)	ANGULAR MOVEMENT (DEG.)	MAX. ALLOWABLE PRESSURE (PSIG)
959-150-1006	10	10.79	12.25	1.53	6.00	7,963	551,609	192.10	0.31	0.02	3.01	199
959-150-1008	10	10.79	12.25	3.63	7.75	4,496	62,103	108.50	0.61	0.07	5.23	200
959-150-1012	10	10.79	12.18	7.45	11.50	1,212	4,588	29.10	1.47	0.33	0.25	156
959-150-1018	10	10.75	12.50	13.03	17.25	4,660	5,581	114.50	1.45	0.56	8.04	337
959-150-1024	10	10.75	12.50	19.25	23.50	3,189	1,788	78.30	2.12	1.20	1.00	173
959-150-1206	12	12.75	14.80	1.25	3.50	17,916	2,851,770	618.10	0.31	0.01	2.54	250
959-150-1208	12	12.75	14.80	2.71	5.00	12,262	421,202	423.00	0.49	0.04	3.87	276
959-150-1212	12	12.75	14.80	7.03	9.50	3,928	21,439	135.50	1.21	0.22	7.33	195
959-150-1218	12	12.75	14.80	12.21	14.75	4,490	8,498	154.90	1.61	0.50	7.96	268
959-150-1224	12	12.75	14.80	18.61	21.00	2,994	2,518	103.30	2.42	1.12	0.50	167
959-150-1406	14	14.01	16.00	1.08	4.50	29,948	5,980,166	1225.90	0.22	0.01	1.67	283
959-150-1408	14	14.01	16.00	3.14	6.50	11,979	382,719	490.40	0.55	0.04	4.01	283
959-150-1410	14	14.05	15.70	5.28	8.75	2,649	31,920	106.50	1.06	0.13	5.89	156
959-150-1412	14	14.03	16.30	7.01	10.50	2,557	18,940	106.50	1.98	0.33	3.00	199
959-150-1418	14	13.99	16.30	12.52	16.25	5,966	12,954	248.80	1.60	0.46	8.02	306
959-150-1424	14	14.01	16.00	19.07	21.75	3,511	3,316	143.70	2.31	1.01	2.00	191
959-150-1608	16	16.05	17.75	1.99	3.50	14,112	1,378,112	732.80	0.39	0.02	2.57	237
959-150-1612	16	16.03	17.75	4.99	8.35	14,446	236,782	749.30	0.63	0.07	3.99	298

NOTES:

- MATERIAL: ASTM A-240 GRADE 304.
- DESIGN TEMPERATURE: 300°F.
- ALL MOVEMENTS ARE RATED FOR 5000 CYCLES NON CONCURRENT AS PER EJMA.

C	UPDATED AS PER COMMENTS	10/21/2024	UG		
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SHEET SIZE:
8.5" x 11"



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Houston, TX
www.bellows-systems.com

BELLOWS ELEMENT
150 PSIG

DRAWN BY:

DATE:

SCALE:

DRAWING
NUMBER:

959-150-XXXX

SHEET#:
3 OF 5

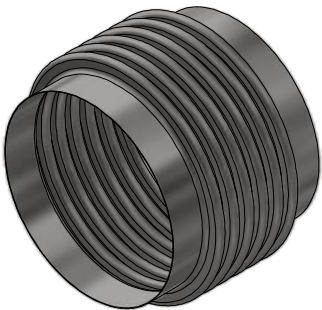
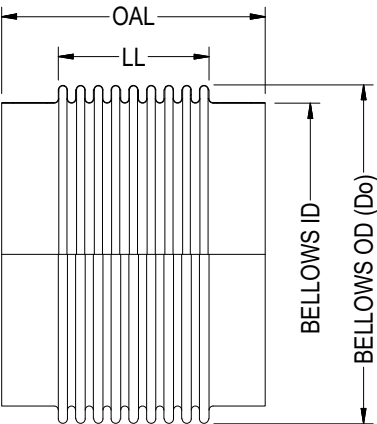
REV.
C

U GULATI

9/27/2024

AS SHOWN

150 PSI BELLOWS



ISOMETRIC VIEW

PART NUMBER	PIPE SIZE	BELLOWS ID	BELLOWS OD (Do)	LIVE LENGTH (LL)	OVERALL LENGTH (OAL)	AXIAL SPRING RATE (LBF/IN.)	LATERAL SPRING RATE (LBF/IN.)	ANGULAR SPRING RATE (FT. LBS/DEG.)	AXIAL MOVEMENT (IN.)	LATERAL MOVEMENT (IN.)	ANGULAR MOVEMENT (DEG.)	MAX. ALLOWABLE PRESSURE (PSIG)
959-150-1618	16	16.03	17.75	12.42	15.80	3,443	9,803	178.60	1.73	0.44	6.09	207
959-150-1620	16	16.05	17.75	14.25	17.50	3,167	6,900	164.60	1.92	0.56	2.00	206
959-150-1624	16	16.01	17.75	17.77	22.50	10,475	13,967	542.70	1.39	0.51	6.16	255
959-150-1808	18	18.05	20.50	1.99	3.25	11,023	1,481,392	744.60	0.56	0.02	3.25	173
959-150-1812	18	18.05	20.50	5.75	7.00	5,192	90,219	350.70	1.25	0.13	6.23	185
959-150-1818	18	18.03	20.50	11.12	15.65	6,455	29,169	435.50	1.62	0.33	7.05	265
959-150-1824	18	18.03	20.50	17.77	22.50	4,468	8,062	301.50	2.41	0.77	3.00	257
959-150-2008	20	20.07	22.30	1.99	5.25	16,108	2,549,872	1314.30	0.49	0.02	2.57	212
959-150-2012	20	20.09	22.30	5.83	9.25	4,311	85,366	352.10	1.21	0.01	1.00	152
959-150-2018	20	20.07	22.30	11.11	15.75	5,434	29,733	443.40	1.64	0.30	6.13	204
959-150-2024	20	20.05	22.30	16.46	21.00	6,892	17,201	561.80	1.92	0.52	6.44	238
959-150-2212	22	22.07	24.65	5.00	9.50	10,953	360,898	1086.70	1.01	0.08	4.58	234
959-150-2218	22	22.07	24.65	11.12	15.75	6,959	46,493	690.40	1.71	0.28	6.31	232
959-150-2224	22	22.07	24.65	16.46	21.00	5,187	16,041	514.60	2.36	0.58	6.55	224
959-150-2412	24	24.10	26.80	5.00	9.50	10,488	414,099	1235.00	1.08	0.08	4.49	212
959-150-2418	24	24.10	26.80	11.12	15.65	6,678	53,310	786.30	1.83	0.28	6.15	215
959-150-2424	24	24.10	26.80	16.46	21.00	4,981	18,402	586.60	2.52	0.56	6.38	209

- NOTES:
1. MATERIAL: ASTM A-240 GRADE 304.
 2. DESIGN TEMPERATURE: 300°F.
 3. ALL MOVEMENTS ARE RATED FOR 5000 CYCLES NON CONCURRENT AS PER EJMA.

REV.	DESCRIPTION	DATE:	BY:	CHKD:	APPD:
C	UPDATED AS PER COMMENTS	10/21/2024	UG		
B	SHEET NO. 5 ADDED	10/18/2024	UG		
A	FOR REVIEW	9/27/2024	UG		
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SHEET SIZE:		8.5" x 11"			



BELLOWS SYSTEMS, INC.

Houston, TX
www.bellows-systems.com

BELLOWS ELEMENT
150 PSIG

DRAWN BY:	DATE:	SCALE:	DRAWING NUMBER:	SHEET#:	REV.
U GULATI	9/27/2024	AS SHOWN	959-150-XXXX	4 OF 5	C

ADDITIONAL NOTES:

- FOR CONCURRENT MOVEMENTS USE THE FOLLOWING FORMULA:

$$\left(\frac{\text{AXIAL MOVEMENT}}{\text{ALLOWABLE AXIAL MOVEMENT}}\right) + \left(\frac{\text{LATERAL MOVEMENT}}{\text{ALLOWABLE LATERAL MOVEMENT}}\right) + \left(\frac{\text{ANGULAR MOVEMENT}}{\text{ALLOWABLE ANGULAR MOVEMENT}}\right) < 1$$

- OTHER MATERIAL (321 SS, 316 SS, IN625, IN718, ALLOY 825, C22, C276, ETC.) AVAILABLE ON REQUEST.
- A FATIGUE CORRECTION FACTOR OF 1 PER EJMA IS USED FOR CYCLE LIFE CALCULATION. FOR HIGHER FATIGUE SAFETY OR FATIGUE LIFE PER OTHER DESIGN CODES SUCH AS ASME PLEASE CONTACT BSI ENGINEERING.
- BELLOWS ARE OF SINGLE PLY DESIGN WITH STANDARD "U" PROFILE CONVOLUTIONS.
- FOR HIGH TEMPERATURE PLEASE CONTACT BSI ENGINEERING.

						 Bellows Systems CAGE CODE: 22727	BELLOWS SYSTEMS, INC. Houston, TX www.bellows-systems.com					
C	UPDATED AS PER COMMENTS	10/21/2024	UG				BELLOWS ELEMENT 150 PSIG					
B	SHEET NO. 5 ADDED	10/18/2024	UG									
A	FOR REVIEW	10/18/2024	UG									
REV.	DESCRIPTION	DATE:	BY:	CHK'D:	APPD:							
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Bellows
Systems



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Houston, TX 77041, United States

Sales
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For Sales Enquiries
sales@bellows-systems.com

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