

**DOUBLE  
WITH  
ANCHOR  
BASE**

**MODEL MNL**  
*(LOW CORRUGATION)*  
**EXPANSION JOINTS**  
**50# CLASS**

Maximum Working Pressure ..... 50 PSI  
 Working Temperature ..... 800 F  
 Test Pressure..... 75 PSI  
 End Fittings:  
 Flanges ..... ANSI B16.5  
 Weld Ends..... A 53 / A 106  
 Bellows..... 316 S/S

WHEN ORDERING, SPECIFY MOVEMENT.

QTY	SIZE	SHORT / LONG	AXIAL COMPRESSION (in)	FLANGED ENDS		WELD ENDS		EFFECTIVE AREA (Sq. in.)	SPRING RATE (Lbs/In.)
				OAL (in)	WT (lbs)	OAL (in)	WT (lbs)		
	2"	S	1 -1/8	6-1/2	11	9-7/8	3	6	590
		L	1 -3/4	8-1/2	13	11-3/4	4		315
	2-1/2"	S	1	7	14	9-7/8	3	9	498
		L	1 -3/4	8-7/8	16	11-3/4	4		299
	3"	S	1	7-3/8	17	10-1/2	5	12	345
		L	2	9	18	12	6		231
	4"	S	1 -1/4	7-1/2	27	10-5/8	8	19	800
		L	2 -1/2	10-3/4	28	13-3/4	9		399
	5"	S	1 -1/4	7-5/8	33	10-5/8	13	29	985
		L	2 -1/2	11-1/4	34	14-1/4	15		465
	6"	S	1 -1/4	8	43	11	18	40	1170
		L	2 -1/2	11-1/2	47	14-1/2	20		549
	8"	S	1 -1/2	9-1/4	64	12-1/8	22	66	1220
		L	3	13-1/4	71	16-1/8	26		609
	10"	S	1 -1/2	9-3/8	45	12-1/8	25	104	1655
		L	3 -3/8	14-3/8	52	17-1/4	32		750
	12"	S	1 -1/2	9-3/4	70	12-1/2	35	146	784
		L	3 -1/4	13-1/2	85	16-1/4	42		435
	14"	S	1 -3/4	10-3/8	98	14-1/8	56	183	2200
		L	3 -1/2	15	112	18-3/4	70		1100
	16"	S	1 -3/4	11-1/4	112	15	62	237	1720
		L	3 -1/2	16-3/4	127	20-1/2	77		860
	18"	S	1 -3/4	11-1/2	112	15	57	298	1640
		L	3 -1/2	17	123	20-1/2	68		820
	20"	S	1 -3/4	13-3/8	130	15	72	362	1960
		L	3 -1/2	18-7/8	146	20-1/2	88		980
	22"	S	1 -3/4	14	140	15	78	434	2040
		L	3 -1/2	19-1/2	157	20-1/2	95		1020
	24"	S	1 -3/4	14-1/4	220	15	88	512	2460
		L	3 -1/2	19-3/4	240	20-1/2	108		1230

CUSTOMER \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

ARCHITECT \_\_\_\_\_

PRO. OR P.O. NO. \_\_\_\_\_



DESCRIPTION: **MODEL MNL**  
LOW CORR BELLOWS EXPANSION JOINT

DRAWING BY: **ZB**      DATE: **12/27/07**      DRAWING NO. **MNL50-Rev1**

# MODEL MNL C

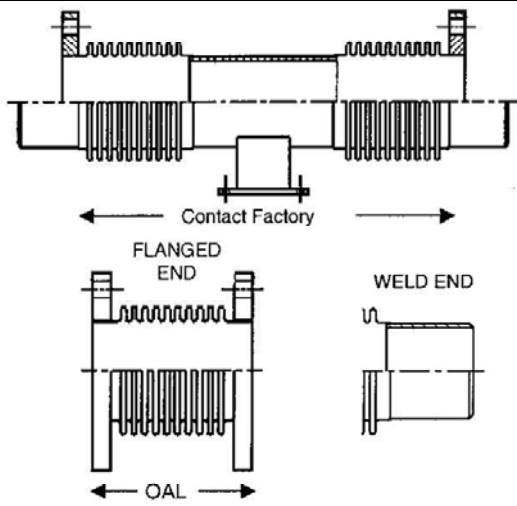
(LOW CORRUGATION)

## EXPANSION JOINTS

### 300# CLASS

Maximum Working Pressure .....300 PSI  
 Working Temperature .....800 F  
 Test Pressure .....450 PSI  
 End Fittings:  
 Flanges .....ANSI B16.5  
 Weld Ends.....A 53 / A 106  
 Bellows .....316 S/S

WHEN ORDERING, SPECIFY MOVEMENT.



QTY	SIZE	SHORT / LONG	AXIAL COMPRESSION (in)	FLANGED ENDS		WELD ENDS		EFFECTIVE AREA (Sq. in.)	SPRING RATE (Lbs./In.)
				OAL (in)	WT (lbs)	OAL (in)	WT (lbs)		
	2"	S	3/4	6-1/2	12	9-7/8	3	6	731
		L	1-1/4	8-1/2	14	11-3/4	4		453
	2-1/2"	S	3/4	7	16	9-7/8	3	9	725
		L	1-1/4	8-7/8	17	11-3/4	4		425
	3"	S	3/4	7-3/8	21	10-1/2	5	12	1138
		L	1-3/8	9	22	12	7		759
	4"	S	7/8	7-1/2	37	10-5/8	9	19	1775
		L	1-3/4	10-3/4	40	13-3/4	10		888
	5"	S	3/4	7-5/8	47	10-5/8	14	29	2059
		L	1-3/4	11-1/4	51	14-1/4	17		961
	6"	S	3/4	8	89	11	20	40	2456
		L	1-3/4	11-1/2	94	14-1/2	22		1146
	8"	S	1	9-1/4	126	12-1/8	24	66	2791
		L	2	13-1/4	131	16-1/8	29		1395
	10"	S	1	9-3/8	168	12-1/8	27	104	2996
		L	2-1/2	14-3/8	179	17-1/4	35		1226
	12"	S	1	9-3/4	210	12-1/2	39	146	4586
		L	2-1/4	13-1/2	231	16-1/4	46		2293
	14"	S	1	10-3/8	386	14-1/8	132	183	5120
		L	2	15	414	18-3/4	160		2560
	16"	S	1-1/2	11-1/4	440	15	92	237	4240
		L	3	16-3/4	470	20-1/2	122		2120
	18"	S	1-1/2	11-1/2	564	15	99	298	6500
		L	3	17	598	20-1/2	131		3240
	20"	S	1-1/2	13-3/8	710	15	113	362	7130
		L	3	18-7/8	750	20-1/2	173		3600
	22"	S	1-1/2	14	830	15	152	434	11800
		L	3	19-1/2	875	20-1/2	202		5900
	24"	S	1-1/2	14-1/4	1030	15	180	512	12300
		L	3	19-3/4	1070	20-1/2	220		6200


CUSTOMER \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

ARCHITECT \_\_\_\_\_

PRO. OR P.O. NO. \_\_\_\_\_



*for pipes in motion*

DESCRIPTION:

## MODEL MNL C

LOW CORR BELLOWS EXPANSION JOINT

DRAWING BY: <b>ZB</b>	DATE: <b>12/27/07</b>	DRAWING NO. <b>MNL C300-Rev1</b>
--------------------------	--------------------------	-------------------------------------

# MODEL MNL C

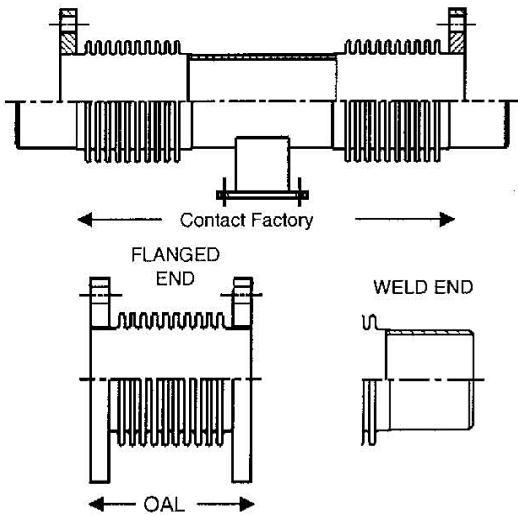
(LOW CORRUGATION)

## EXPANSION JOINTS

### 150# CLASS

Maximum Working Pressure ..... 150 PSI  
 Working Temperature ..... 800 F  
 Test Pressure ..... 225 PSI  
 End Fittings:  
 Flanges ..... ANSI B16.5  
 Weld Ends ..... A 53 / A 106  
 Bellows ..... 316 S/S

WHEN ORDERING, SPECIFY MOVEMENT.



**DOUBLE**  
WITH  
ANCHOR  
BASE

**SINGLE**

QTY	SIZE	SHORT / LONG	AXIAL COMPRESSION (in)	FLANGED ENDS		WELD ENDS		EFFECTIVE AREA (Sq. in.)	SPRING RATE (Lbs/In.)
				OAL (in)	WT (lbs)	OAL (in)	WT (lbs)		
	2"	S	1 -1/8	6-1/2	11	9-7/8	3	6	595
		L	1 -3/4	8-1/2	13	11-3/4	4		320
	2-1/2"	S	1	7	14	9-7/8	3	9	498
		L	1 -3/4	8-7/8	16	11-3/4	4		299
	3"	S	1	7-3/8	20	10-1/2	5	12	349
		L	2	9	21	12	6		240
	4"	S	1 -1/4	7 -1/2	35	10-5/8	8	19	803
		L	2 -1/2	10 -3/4	38	13-3/4	9		406
	5"	S	1 -1/4	7-5/8	45	10-5/8	13	29	987
		L	2 -1/2	11-1/4	49	14-1/4	15		480
	6"	S	1 -1/4	8	85	11	18	40	1181
		L	2 -1/2	11-1/2	90	14-1/2	20		555
	8"	S	1 -1/2	9-1/4	120	12-1/8	22	66	1235
		L	3	13-1/4	125	16-1/8	26		620
	10"	S	1 -1/2	9-3/8	160	12-1/8	25	104	1669
		L	3-1/4	14-3/8	170	17-1/4	32		760
	12"	S	1-1/2	9-3/4	200	12-1/2	35	146	1815
		L	3-1/8	13-1/2	220	16-1/4	42		957
	14"	S	1-1/2	10-3/8	220	14-1/8	68	183	3960
		L	3	15	240	18-3/4	88		1990
	16"	S	1-1/2	11-1/4	232	15	68	237	3360
		L	3	16-3/4	250	20-1/2	86		1680
	18"	S	1-1/2	11-1/2	296	15	71	298	5200
		L	3	17	314	20-1/2	89		2600
	20"	S	1-1/2	13-3/8	378	15	88	362	5600
		L	3	18-7/8	402	20-1/2	112		2800
	22"	S	1-1/2	14	426	15	100	434	5700
		L	3	19-1/2	454	20-1/2	128		2850
	24"	S	1-1/2	14-1/4	495	15	116	512	6100
		L	3	19-3/4	520	20-1/2	150		3030

CUSTOMER \_\_\_\_\_

PROJECT \_\_\_\_\_

ENGINEER \_\_\_\_\_

ARCHITECT \_\_\_\_\_

PRO. OR P.O. NO. \_\_\_\_\_



DESCRIPTION:

**MODEL MNL C**

LOW CORR BELLOWS EXPANSION JOINT

DRAWING BY:  
ZB

DATE:  
12/27/07

DRAWING NO.  
MNL C150-Rev1