



**MICROFLEX INDUSTRIAL**

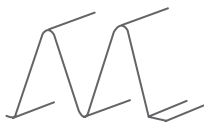
**RECTANGULAR DUCT TYPE  
EXPANSION JOINTS**

## DESIGN

Microflex rectangular duct expansion joints are designed in accordance with the latest edition of the Standards of the Expansion Joint Manufacturers Association (E.J.M.A.) to compensate for thermal expansion in duct expansion in duct systems to scrubbers, turbines, precipitators, condensers, boiler breeching and other gas systems.

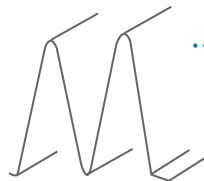
## BELLOWS

Microflex rectangular bellows are die formed from .050" A-240 304 SST (other material is available on request) and are available in three standard designs:



### TYPE MRL

Nominal 4" high x 2" pitch provides the most economical product for most applications.



### TYPE MRH

Nominal 6" high x 3" pitch used where a lower spring rate is required to comply with force or loading restrictions.

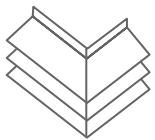


### TYPE MRU

Nominal 2" high x 1 1/2" pitch for higher pressure; or vacuum service in steam condensers.

## CORNERS

### TYPE MITER

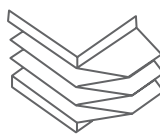


Single miter corner provides the most economical design for most applications and is available on Microflex type MRL, MRH, and MRU expansion joints.



Double miter also available.

### TYPE CAMERA



Camera corner provides additional flexibility in duct systems that operate under more cyclical conditions and is available on Microflex type MRL and MRH expansion joints.

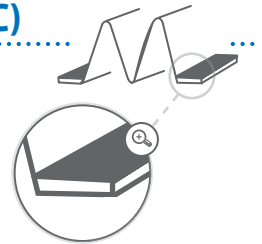
### TYPE ROUND



Round corners provide maximum flexibility and pressure capacity, and are available on Microflex type MRU expansion joints.

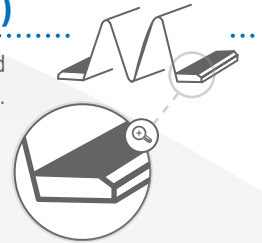
## COLLAR ENDS (CC)

1/4" thick x 2" wide collars are designed to slip over duct and connect with a fillet weld.



## WELD ENDS (WW)

1/4" thick x 3" wide with beveled ends designed to butt weld to duct. Other sizes are available.



## ANGLE FLANGES (AA)

3" x 3" x 3/8" angle flanges with 3/4" diameter holes on 4" centers are standard. Other sizes are available.



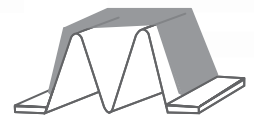
## LINERS

Internal liners should be specified when flow velocity exceeds 25 FPS for air or gases, 10 FPS for liquids, or where abrasive particles in the gas stream could cause erosion of the bellows. If specified, Kaowool can be installed in the annular space between bellows and liner to prevent accumulation of solids. Microflex standard liner thickness is minimum 1/16" to 1/8".



## COVERS

External covers should be specified to protect the bellows from mechanical damage or where the expansion joint will be insulated. Microflex standard is 14 gauge carbon steel.



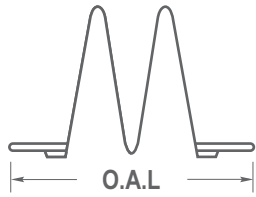
## PRESSURE

Microflex type MRL and MRH expansion joints are designed for +/- 100" water pressure at a maximum temperature of 1000 °F. Type MRU expansion joints are designed for service from full vacuum to 15 psi at a maximum temperature of 1000 °F.

## MOVEMENT

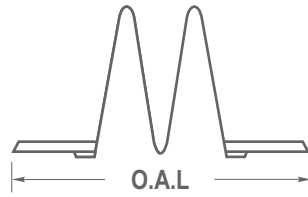
Microflex can design for any combination of axial, lateral, and/or angular movement.

# TECHNICAL DATA SHEET



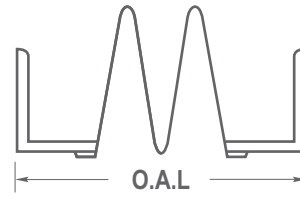
**CC**

COLLAR / COLLAR



**WW**

WELD END / WELD END



**AA**

ANGLE FLANGE / ANGLE FLANGE

TYPE & PRESSURE	# OF CONS	AXIAL MOVEMENT (INCHES)	AXIAL SPRING RATE (LBS/IN/IN PERIMETER)	CC OAL	CC WGT	WW OAL	WW WGT	AA OAL	AA WGT
<b>MRL</b> +/-100" H <sub>2</sub> O 1000 °F	1	5/8	20	6	5 1/2	8	7	8	16
	2	1 1/4	10	8	7	10	8 1/2	10	17 1/2
	3	1 7/8	6 2/3	10	8 1/2	12	10	12	19
	4	2 1/2	5	12	10	14	11 1/2	14	20 1/2
	5	3 1/8	4	14	11 1/2	16	13	16	22
<b>MRH</b> +/-100" H <sub>2</sub> O 1000 °F	1	1 1/8	8	7	6	9	7 1/2	9	16 1/2
	2	2 1/4	4	10	8	12	9 1/2	12	18 1/2
	3	3 3/8	2 5/8	13	10	15	11 1/2	15	20 1/2
	4	4 1/2	2	16	12	18	13 1/2	18	22 1/2
<b>MRU</b> +/- 15 psi 1000 °F	1	1/2	110	5 1/2	5	7 1/2	6 1/2	7 1/2	15 1/2
	2	1	55	7	6	9	7 1/2	9	16 1/2
	3	1 1/2	36 2/3	8 1/2	7	10 1/2	8 1/2	10 1/2	17 1/2
	4	2	27 1/2	10	8	12	9 1/2	12	18 1/2
	5	2 1/2	22	11 1/2	9	13 1/2	10 1/2	13 1/2	19 1/2

\* Additional configurations available.

Microflex<sup>®</sup> inc.

RECTANGULAR DUCT



[WWW.MICROFLEXINC.COM](http://WWW.MICROFLEXINC.COM)



**MICROFLEX INDUSTRIAL**

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