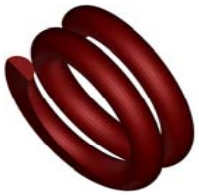
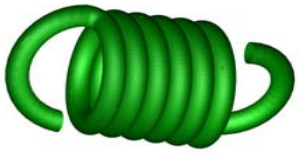
Spring Engineers of Houston also manufactures wire forms of all shapes and sizes - Call for Asssistance
Select a Spring Type to View the Design Worksheet

Coil Springs

Compression Spring



Extension Spring

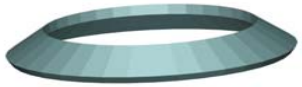


Torsion Spring

Garter Spring

Disc Springs

Belleville Washer



Wave Washer

Curved Washer

Rings - Constant Section

Round Wire Ring

Square/Rect Wire Ring

Beam Springs

Bow Spring 1
Bow Spring 2
Bow Spring 3
Bow Spring 4

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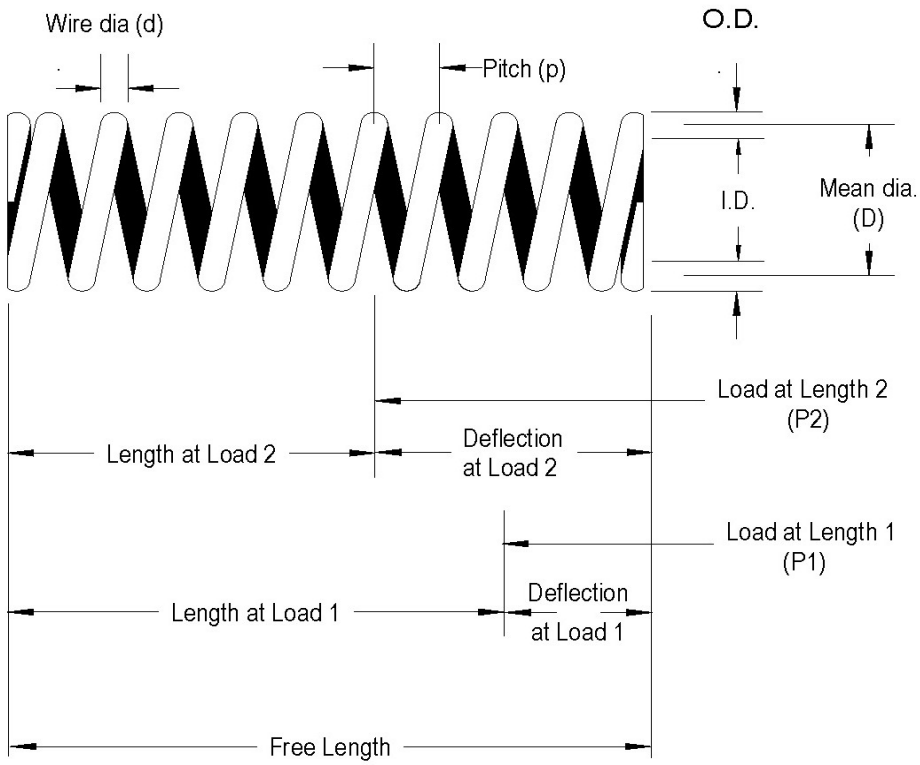
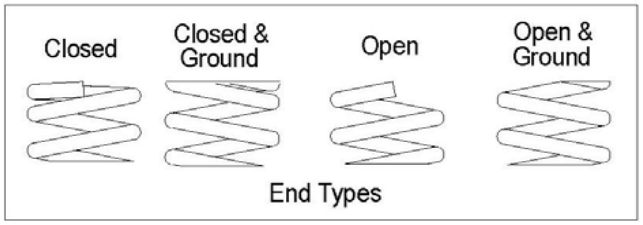
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #						
Qty(s) Required						

Compression Spring Design

Special Requirements: Temperature or Chemical exposure? Special finish?





Material and Basic Dimensions

Material Type			Mtl. Spec.		
Wire Dia	(in.)		(+/-)		(in.)
Outside Dia	(in.)		(+/-)		(in.)
Mean Dia	(in.)		(+/-)		(in.)
Inside Dia	(in.)		(+/-)		(in.)
Free Length	(in.)		(+/-)		(in.)

Configuration and Working Envelope

Total Coils		Helix - *(select 1)*	
Active Coils		☐ Left	☐ Right ☐ Optional
Pitch	(in.)	End Type - *(select 1)*	
Works inside	dia hole	☐ Closed	☐ Closed and Ground
Works over	dia shaft	☐ Open	☐ Open and Ground

Loads - Rates - Deflection

Rate	(lbf/in)		(+/-)	(lbf/in)
Length at Load 1	(in.)	Load 1		(lbs)
Deflection at Load 1	(in.)			
Length at Load 2	(in.)	Load 2		(lbs)
Deflection at Load 2	(in.)			
Solid Height	(in.)		(+/-)	(in.)

CONTACT INFORMATION	
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Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type			Mtl. Spec.		
Wire Dia	(in.)		(+/-)		(in.)
Outside Dia	(in.)		(+/-)		(in.)
Mean Dia	(in.)		(+/-)		(in.)
Inside Dia	(in.)		(+/-)		(in.)
Length (inside hooks)	(in.)		(+/-)		(in.)
Body Length	(in.)		(+/-)		(in.)

Hook Configuration		Orientation Examples	
Hook Type		0 deg	
Orientation	(deg)	90 deg	
Gap	(in.)	180 deg	

Load - Rate - Deflection

Initial Tension	(lbs.)		(+/-)	(lbs.)
Rate	(lbf/in)		(+/-)	(lbf/in)
Length at Load 1	(in.)	Load 1		(lbs)
Deflection at Load 1	(in.)			
Length at Load 2	(in.)	Load 1		(lbs)
Deflection at Load 1	(in.)			

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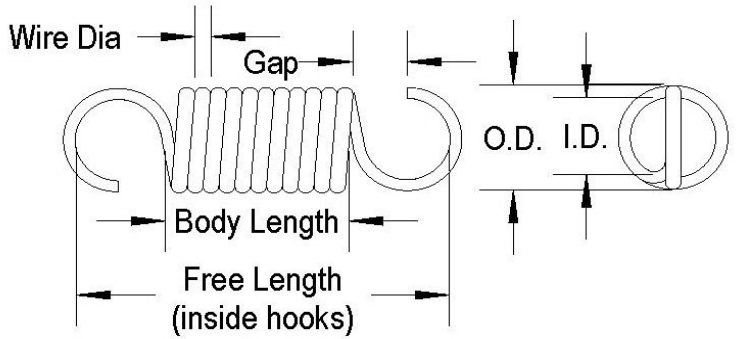
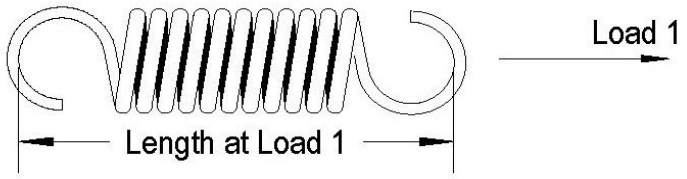
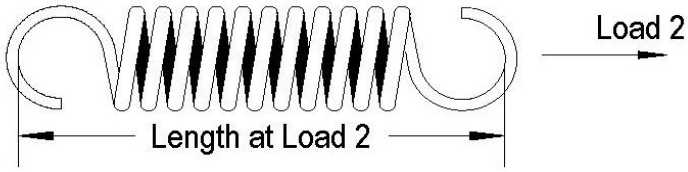
Extension Spring Design

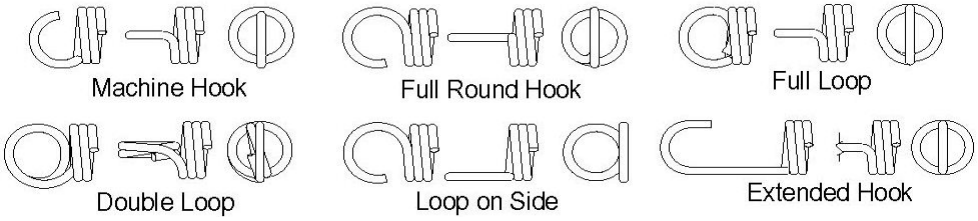
Special Requirements: Temperature or Chemical exposure? Special finish?







Hook Types



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Torsion Spring Design

Special Requirements: Temperature or Chemical exposure? Special finish?

Part #					
Qty(s) Required					

Material and Basic Dimensions

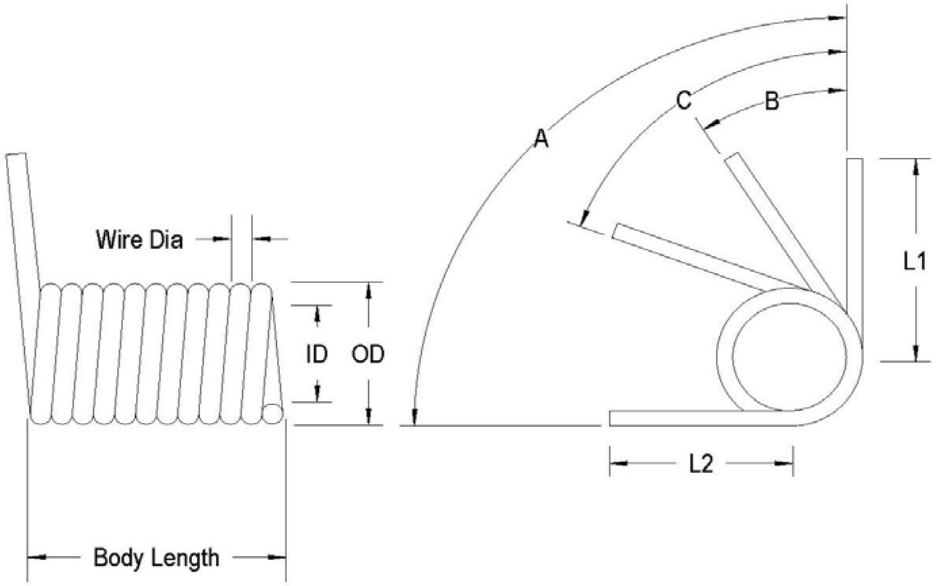
Material Type		Mtl. Spec.		
Wire Dia	(in.)	(+/-)		(in.)
Outside Dia	(in.)	(+/-)		(in.)
Mean Dia	(in.)	(+/-)		(in.)
Inside Dia	(in.)	(+/-)		(in.)
Body Length	(in.)	(+/-)		(in.)

Configuration and Working Envelope

Total Coils				
Wind	☐ Left ☐ Right ☐ Optional			
Works Over	dia shaft	(+/-)		(in.)
Max Body Length	(in.)	(+/-)		(in.)
L1 Length	(in.)	(+/-)		(in.)
L2 Length	(in.)	(+/-)		(in.)

Load - Rate - Deflection

Rate	(lbf/deg)	(+/-)		(lbf/deg)
A - Leg Angle (free)	Deg	(+/-)		Deg
B - Installed Deflection	Deg	@ Load 1		(lbs.)
C - Max Deflection	Deg	@ Load 2		(lbs.)



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Garter Spring Design

Extension Type

CONTACT INFORMATION	
Company Name	
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type			Mtl. Spec.		
Wire Dia	(in.)		(+/-)		(in.)
Outside Dia	(in.)		(+/-)		(in.)
Inside Dia	(in.)		(+/-)		(in.)
Body Dia	(in.)		(+/-)		(in.)

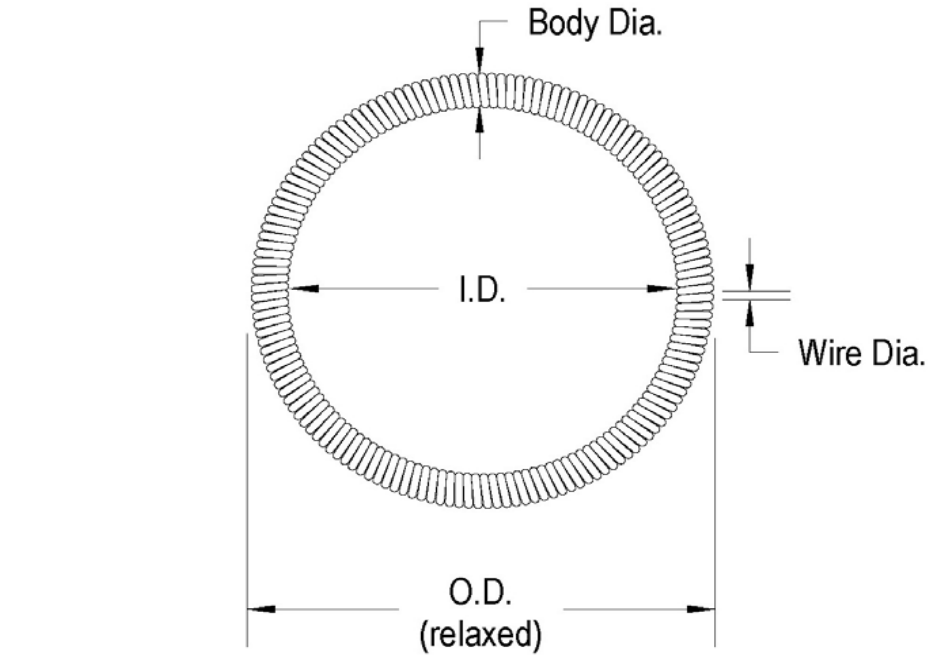
End Configuration

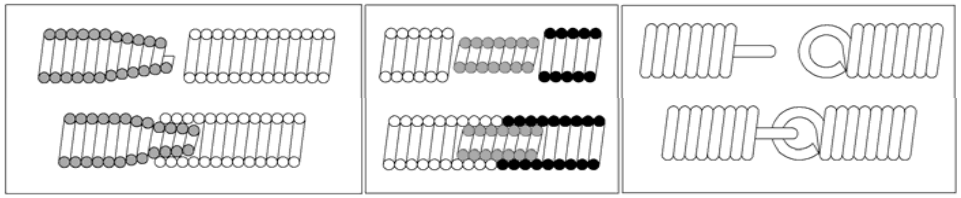
End Type *(select 1)*	☐ Tapered End	☐ Connector	☐ Loop

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf.)
Installed OD	(in.)	(+/-)	(in.)
Installed Radial Load	(lbf.)	(+/-)	(lbf.)
Installed Circumf Load	(lbf.)	(+/-)	(lbf.)

Special Requirements: Temperature or Chemical exposure? Special finish?





Tapered End *Connector* *Loop*

CONTACT INFORMATION	
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Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.	
Wire Diameter	(in.)	(+/-)	(in.)
Outside Dia	(in.)	(+/-)	(in.)
Inside Dia	(in.)	(+/-)	(in.)

Gap Configuration

Gap Dimension	(in.)	(+/-)	(in.)	
Gap Type *(select 1)*	☐ Machine	☐ Parallel	☐ Butt Cut	☐ Other ?

If Applicable - provide installation parameters for load and stress analysis

Shaft OD	(in.)	(+/-)	(in.)
Shaft Groove Dia	(in.)	(+/-)	(in.)
Cylinder ID	(in.)	(+/-)	(in.)
Cylinder Groove Dia	(in.)	(+/-)	(in.)

Special Requirements: Temperature or Chemical exposure? Special finish?

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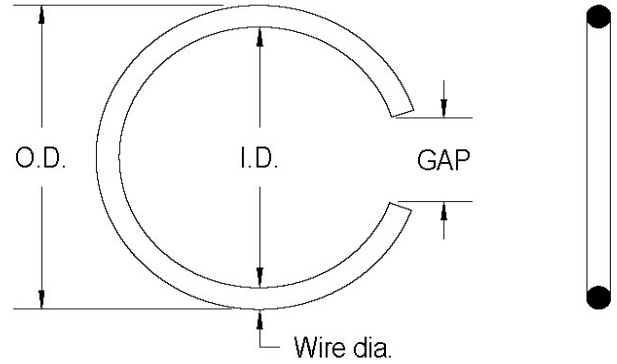
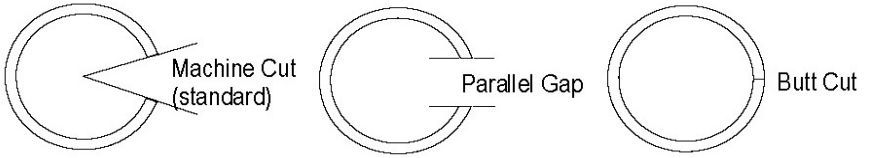
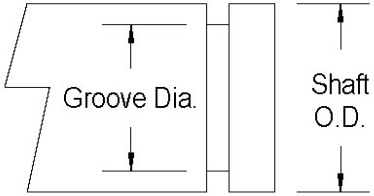
Ring Design

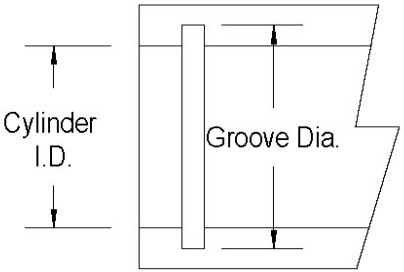
Round Wire





End Cuts





CONTACT INFORMATION	
Company Name	
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type			Mtl. Spec.		
Wire Radial Thickness		(in.)	(+/-)		(in.)
Wire Axial Thickness		(in.)	(+/-)		(in.)
Outside Dia		(in.)	(+/-)		(in.)
Inside Dia		(in.)	(+/-)		(in.)

Gap Configuration

Gap Dimension		(in.)	(+/-)		(in.)
Gap Type *(select 1)*	☐ Machine	☐ Parallel	☐ Butt Cut	☐ Other ?	

If Applicable - provide installation parameters for load and stress analysis

Shaft OD	(in.)	(+/-)	(in.)
Shaft Groove Dia	(in.)	(+/-)	(in.)
Cylinder ID	(in.)	(+/-)	(in.)
Cylinder Groove Dia	(in.)	(+/-)	(in.)

Special Requirements: Temperature or Chemical exposure? Special finish?

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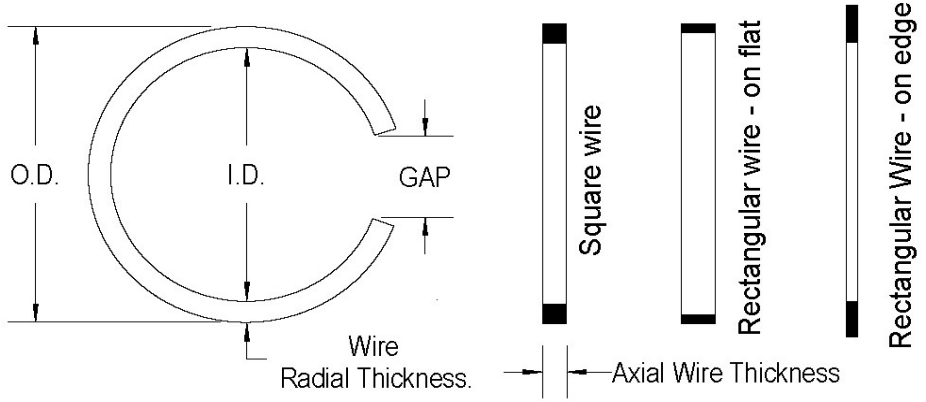
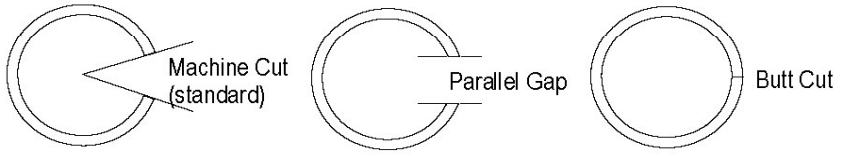
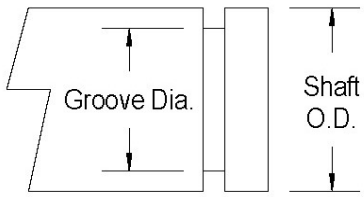
Ring Design

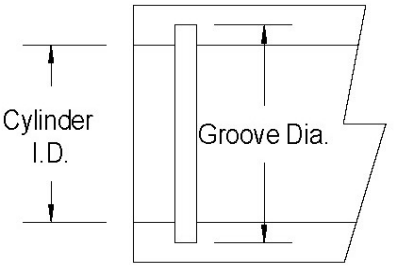
Square or Rectangular Wire





End Cuts





CONTACT INFORMATION	
Company Name	
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.	
Material Width	(in.)	(+/-)	(in.)
Material Thickness	(in.)	(+/-)	(in.)
Part Length	(in.)	(+/-)	(in.)
Overall Height	(in.)	(+/-)	(in.)
Arc Radius	(in.)	(+/-)	(in.)
Flat	(in.)	(+/-)	(in.)

Mounting Hole Dimensions

A	(in.)	(+/-)	(in.)
B (dia)	(in.)	(+/-)	(in.)
C	(in.)	(+/-)	(in.)
D	(in.)	(+/-)	(in.)

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(in.)
Deflection	(in.)	Load	(lbs)

Special Requirements: Temperature or Chemical exposure? Special finish?

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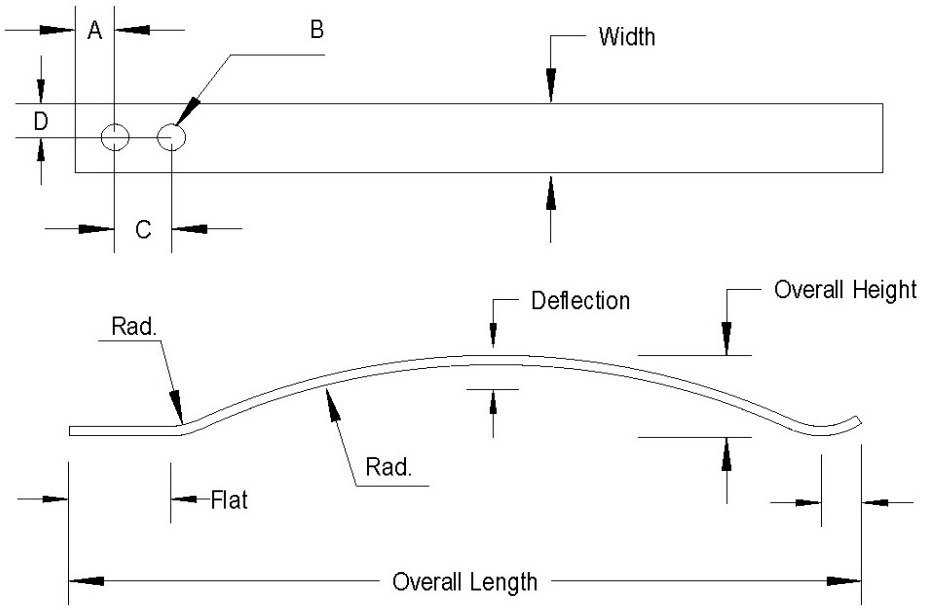
Bow Spring Design

Flat Mount with Radiused Tip



CONTACT INFORMATION	
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Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.		
Material Width	(in.)	(+/-)		(in.)
Material Thickness	(in.)	(+/-)		(in.)
Part Length	(in.)	(+/-)		(in.)
Overall Height	(in.)	(+/-)		(in.)
Arc Radius	(in.)	(+/-)		(in.)
Flat	(in.)	(+/-)		(in.)

Mounting Hole Dimensions

A	(in.)	(+/-)	(in.)
B (dia)	(in.)	(+/-)	(in.)
C	(in.)	(+/-)	(in.)
D	(in.)	(+/-)	(in.)

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf/in)
Deflection	(in.)	Load	lbs.

Special Requirements: Temperature or Chemical exposure? Special finish?

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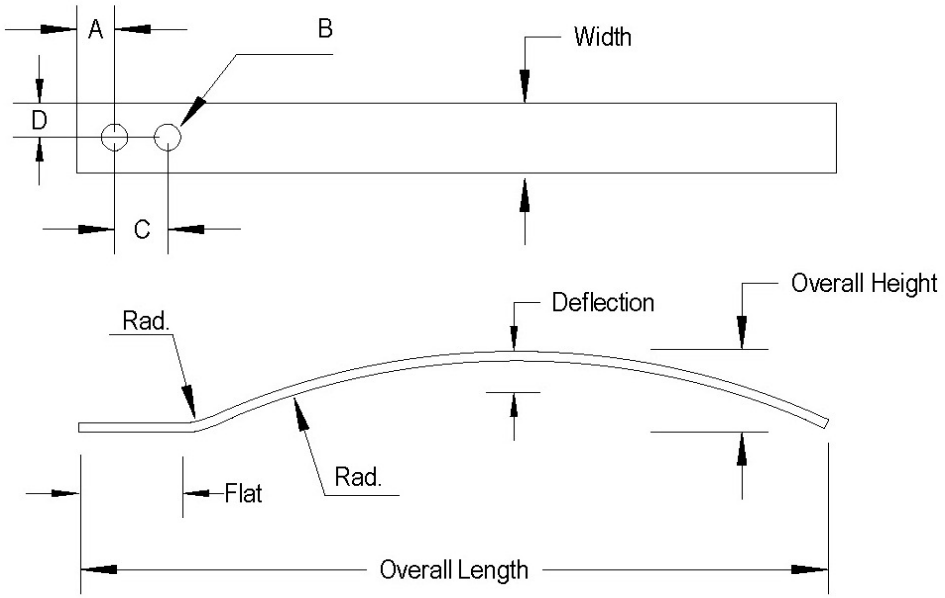
Bow Spring Design

Flat Mount



CONTACT INFORMATION	
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Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.	
Material Width	(in.)	(+/-)	(in.)
Material Thickness	(in.)	(+/-)	(in.)
Part Length	(in.)	(+/-)	(in.)
Overall Height	(in.)	(+/-)	(in.)
Arc Radius	(in.)	(+/-)	(in.)
ID of eyes	(in.)	(+/-)	(in.)

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf.)
Deflection	(in.)	Load	lbs.

Special Requirements: Temperature or Chemical exposure? Special finish?

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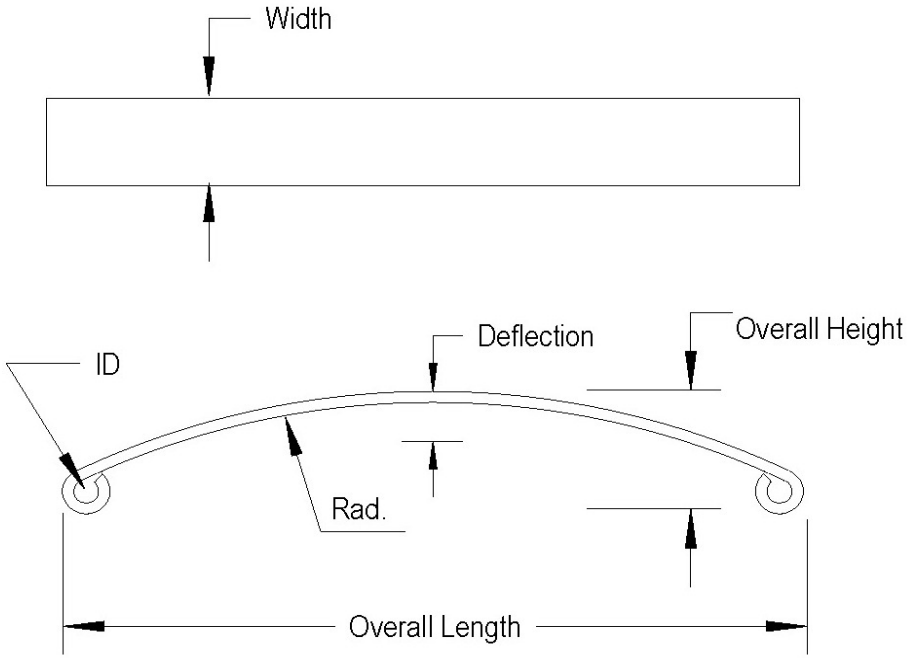
Bow Spring Design

With Eyes



CONTACT INFORMATION	
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City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec	
Material Width	(in.)	(+/-)	(in.)
Material Thickness	(in.)	(+/-)	(in.)
Part Length	(in.)	(+/-)	(in.)
Overall Height	(in.)	(+/-)	(in.)
Arc Radius	(in.)	(+/-)	(in.)

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf/in)
Deflection	(in.)	Load	lbs.

Special Requirements: Temperature or Chemical exposure? Special finish?

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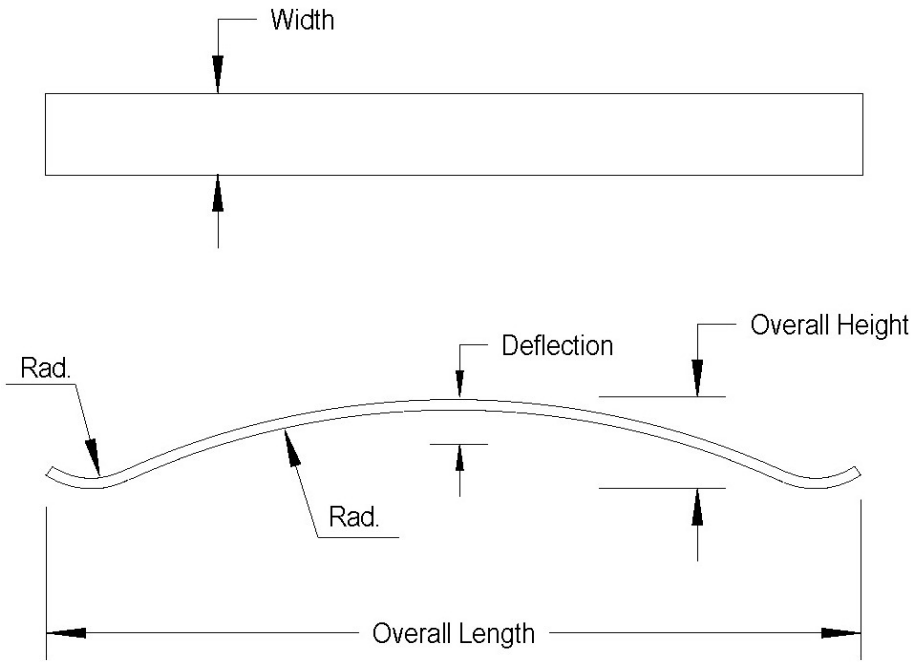
Bow Spring Design

Radiused Ends



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Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.	
Mat'l Thickness	(in.)	(+/-)	(in.)
Outside Dia	(in.)	(+/-)	(in.)
Inside Dia	(in.)	(+/-)	(in.)
Overall Free Height	(in.)	(+/-)	(in.)
Inside Height	(in.)	(+/-)	(in.)

Working Envelope

Works Inside	dia hole	Works Over	dia shaft

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf/in)
Height at Load	(in.)	Load	(lbs)
Deflection at Load	(in.)		

Special Requirements: Temperature or Chemical exposure? Special finish?

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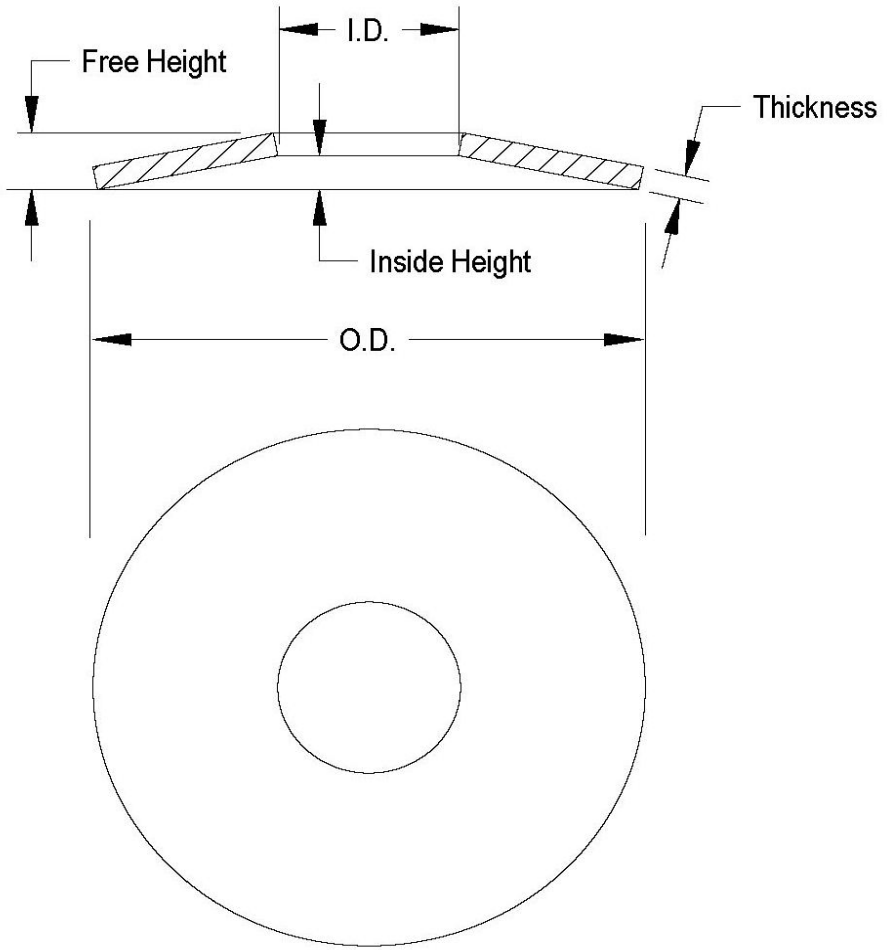
Belleville Washer Design

PLEASE CALL US WHEN SPECIFYING STACKED BELLEVILLE WASHERS.



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Curved Washer Design

CONTACT INFORMATION	
Company Name	
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type		Mtl. Spec.	
Mat'l Thickness	(in.)	(+/-)	(in.)
Outside Dia	(in.)	(+/-)	(in.)
Inside Dia	(in.)	(+/-)	(in.)
Overall Free Height	(in.)	(+/-)	(in.)
Inside Height	(in.)	(+/-)	(in.)
Radius	(in.)	(+/-)	(in.)

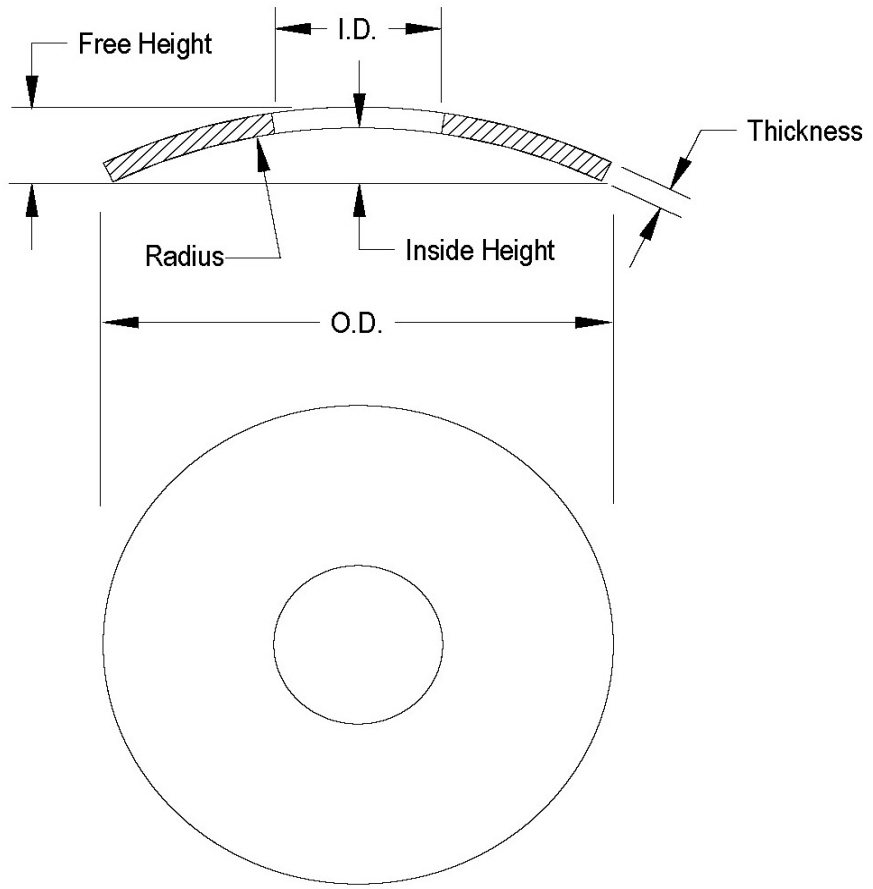
Working Envelope

Works Inside	dia hole	Works Over	dia shaft

Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf/in)
Height at Load	(in.)	Load	(lbs)
Deflection at Load	(in.)		

Special Requirements: Temperature or Chemical exposure? Special finish?



CONTACT INFORMATION	
Company Name	
Address	
City, State, Zip	
Contact Name	
Phone	
Fax	
email	

Part #					
Qty(s) Required					

Material and Basic Dimensions

Material Type			Mtl. Spec.		
Mat'l Thickness	(in.)		(+/-)		(in.)
Outside Dia	(in.)		(+/-)		(in.)
Inside Dia	(in.)		(+/-)		(in.)
Overall Free Height	(in.)		(+/-)		(in.)
Inside Height	(in.)		(+/-)		(in.)
Number of Waves			*(3 waves - standard)*		

Working Envelope

Works Inside	dia hole	Works Over	dia shaft

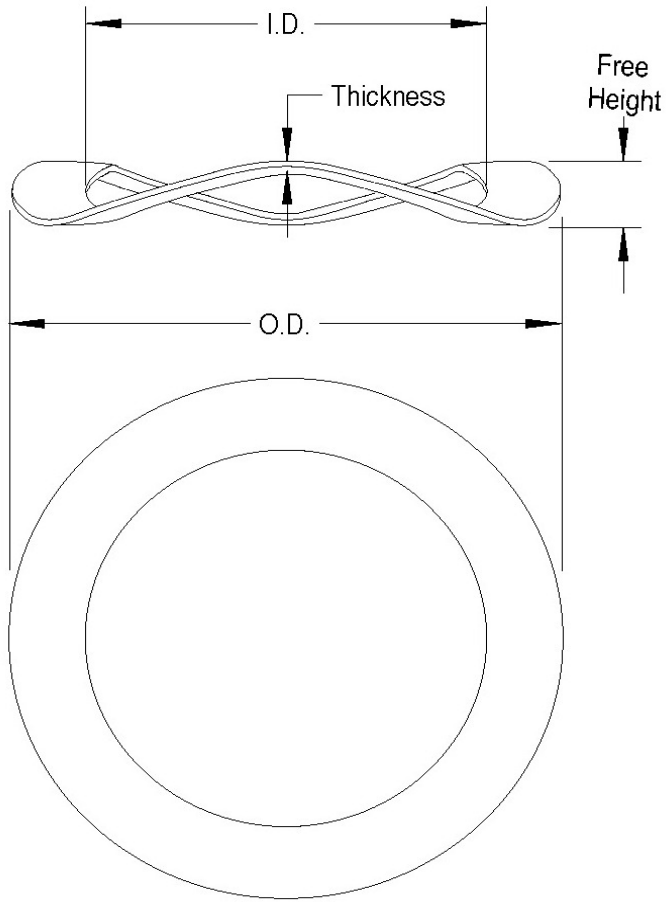
Load - Rate - Deflection

Rate	(lbf/in)	(+/-)	(lbf/in)
Height at Load	(in.)	Load	(lbs)
Deflection at Load	(in.)		

Special Requirements: Temperature or Chemical exposure? Special finish?

Spring Engineers of Houston, Ltd.

9740 Tanner Rd. - Houston, TX - 77041

Ph: 713-690-9488 Fax: 713-690-1199 email: sales@springhouston.com

Wave Washer Design