

# Servometer®

Designing for the Future...



## Gold Plated Bellows Contact Springs

for microwave and other applications to insure electrical continuity on printed circuit parts, where tolerance build up could become a problem, such as with diodes, insertable delay lines, diversity switches, and other unique applications.

*"The Specialists in Precision Miniature Bellows"  
Since 1957*



## SERVOMETER INTERCONNECTIC® FLEXIBLE INTERCONNECT CONTACTS

### INTERCONNECTIC® CONTACTS

Servometer introduces a new line of paired miniature gold plated bellows contact springs for flexible interconnection with diameters ranging from 0.037" OD to 0.125" OD. The unique pairing of a contact with a convex conical tip to a contact with a concave conical receptacle tip allows them to self align as they connect, even when they are misaligned.

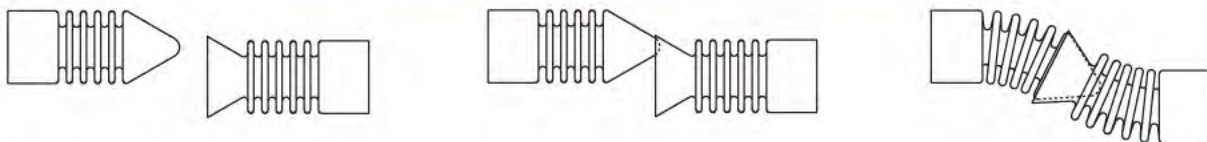
These contact springs are manufactured from electrodeposited nickel and gold plated to ASTM B488 to enhance their conductivity, and provide extremely low DC resistance with a minimum of insertion loss. They are designed to provide lifetime spring and force repeatability.

These self aligning contacts will minimize shock and vibration in dynamic applications; help overcome tolerance buildup and misalignment problems in critical assemblies and allows the designer a less expensive **alternative to high cost**, tight toleranced assembly components.

Paired contacts will self align as they connect to compensate for angular and parallel misalignments (see illustration below).



### PAIRED FLEXIBLE INTERCONNECTIC® CONTACTS



### INTERCONNECTIC® CONTACT SPRINGS AVAILABLE FROM STOCK

PART NUMBER	OUTSIDE DIAMETER (inches)	OVERALL LENGTH (inches)	CONVOLUTION LENGTH (inches)	TYPE	MAXIMUM COMPRESSION STROKE (inches)	MAXIMUM ANGULAR MISALIGNMENT degrees (°)	MAXIMUM PARALLEL MISALIGNMENT (inches)	MINIMUM FORCE @ FULL COMPRESSION (oz.)	METALLIC OHMS D.C. RESISTANCE
SK-18636	.125	.271	.144	IIII>	.037	21	.010	1.616	.020
SK-18637	.125	.322	.236	>IIII	.053	30	.025	2.315	.015
SK-18646	.096	.231	.115	IIII>	.029	21	.008	1.786	.015
SK-18647	.096	.264	.195	>IIII	.042	31	.021	2.587	.022
SK-18642	.066	.170	.092	IIII>	.020	22	.007	0.755	.019
SK-18643	.066	.212	.156	>IIII	.030	32	.017	1.132	.028
SK-18648	.037	.111	.053	IIII>	.013	25	.005	0.187	.028
SK-18649	.037	.136	.091	>IIII	.019	36	.011	0.275	.040

# SERVOMETER GOLD PLATED BELLOWS CONTACTS

## BELLOWS SPRING CONTACTS

In electronic apparatus certain parts such as diodes, delay lines, wave guide components, engaging boards of printed circuitry, require one or more spring contacts to achieve reliable electrical connection. These are parts or locations where the connection cannot or should not be soldered, particularly where the parts are to be inserted, removed and re-inserted. For these purposes the two major spring contacts which are used are gold-plated wire mesh cylinders and gold-plated miniature metal bellows.

## BELLOWS TYPE CONTACTS

Servometer bellows type contact springs are manufactured from electrodeposited nickel and gold plated to ASTM B488 to enhance their conductivity. Bellows type contacts are flexible and dynamic, they are designed to provide a lifetime of reliable interconnection. Bellows contacts help overcome tolerance buildup, vibration and thermal expansion problems in critical assemblies.

Bellows type contacts are superior to wire mesh cylinders because:

1. They have a minimum of self inductance.
2. They have extremely low DC resistance.
3. They have a minimum of insertion loss.
4. They have a lifetime spring reliability.
5. They require moderate forces to insure good contact between the two mating parts.
6. They are seamless and non-porous. No dirt or moisture can lodge in seams or crevices and cause contamination in critical applications.

## CUSTOM MADE CONTACTS

If a contact to meet your requirements is not listed as a standard, Servometer will design a special contact to your specifications.

## LIFE EXPECTANCY

Any life expectancy desired, from 100 cycles to infinity, can be had with the stocked contacts listed. Maximum compressions shown in the chart are for 1,000 cycles life. For greater life cycles this maximum amount of compression is reduced – by 20% for 100,000 cycles and by 30% for 100 x 10<sup>6</sup> cycles.

## ENVIRONMENTAL TOLERANCES

Servometer contacts listed in this catalog can be safely used up to 260°F and maintain their full spring qualities. There is no low temperature limit. Servometer bellows are presently operating at temperatures of -423°F.

## METHODS OF MOUNTING

In many applications it is possible to simply insert the open end of the bellows onto a pin and press assemble into place. Alternatives are to spot weld the open cup to the pin, or solder the contact into place.

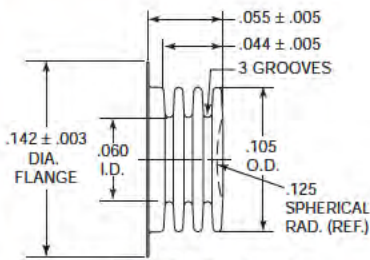
## CURRENT RATING

Servometer contacts are rated for a maximum current of 4 amps.

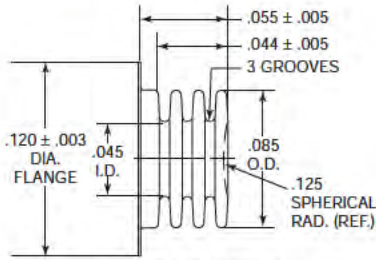
## STANDARD CONTACT SPRINGS AVAILABLE FROM STOCK

PART NUMBER	OUTSIDE DIAMETER (inches)	OVERALL LENGTH (inches)	CONVOLUTION LENGTH (inches)	MAXIMUM COMPRESSION STROKE (inches)	MINIMUM FORCE @ FULL COMPRESSION (oz.)	METALLIC OHMS D.C. RESISTANCE	SURFACE FINISH
1571-1	.105	.055	.044	.015	3.0	.005	.00005" gold
1571-2	.085	.055	.044	.015	4.0	.005	"
2012	.125	.197	.135	.065	4.0	.009	"
2013	.125	.160	.122	.060	4.0	.008	"
2014	.125	.178	.146	.072	3.5	.010	"
2023	.245	.081	.076	.035	6.0	.004	"
2146	.066	.082	.057	.030	1.1	.013	"
2156	.096	.114	.082	.047	2.4	.011	"
2159	.055	.075	.049	.022	1.37	.048	"
2173	.125	.104	.093	.041	2.3	.019	"
2185	.064	.063	.028	.012	1.79	.026	"
2223	.089	.111	.064	.028	4.91	.027	"
2392	.155	.188	.064	.025	3.5	.007	"
2510	.037	.080	.043	.012	.22	.030	"

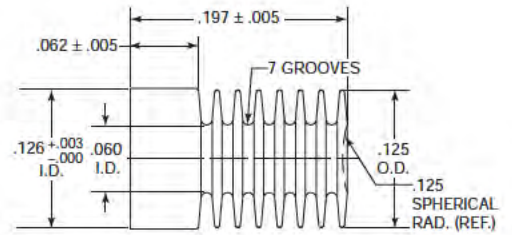
## Servometer Gold Plated Bellows Contacts



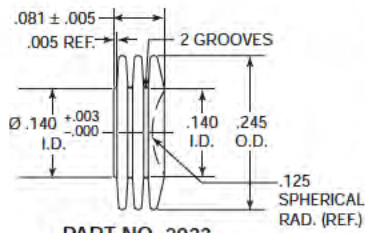
PART NO. 1571-1



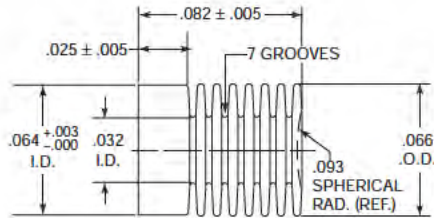
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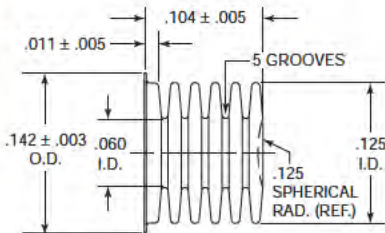
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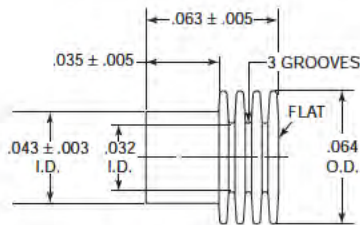
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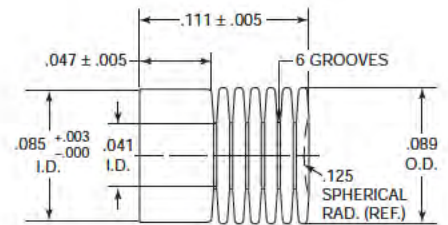
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PART NO. 2173

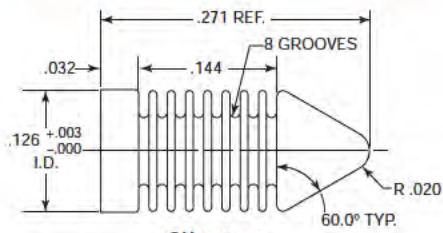


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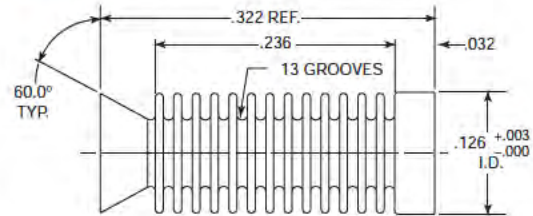


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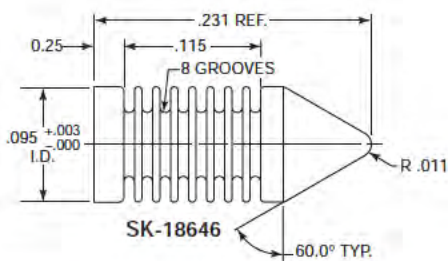
## Servometer Flexible Interconnectic® Contacts



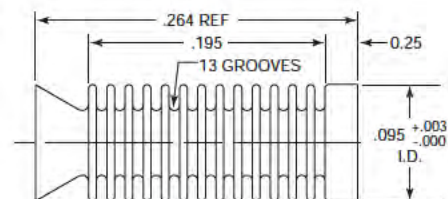
SK-18636



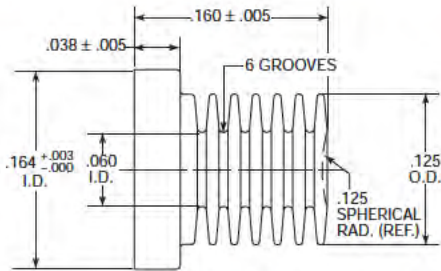
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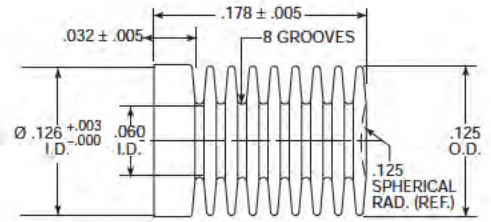
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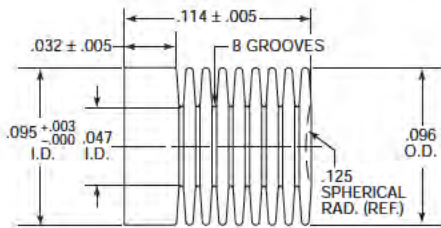
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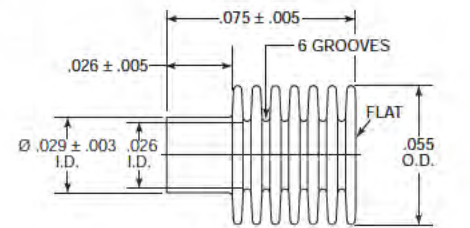
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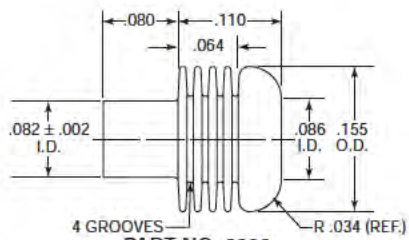
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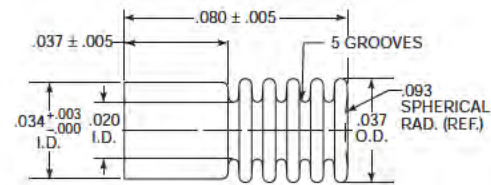
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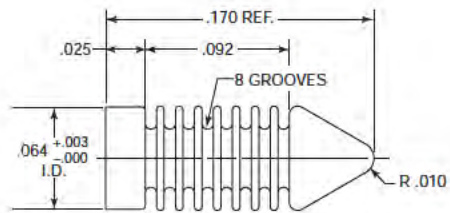
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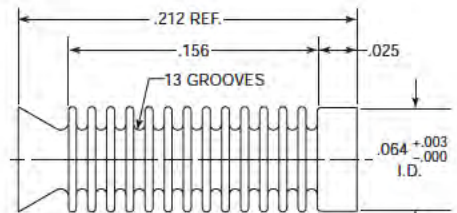
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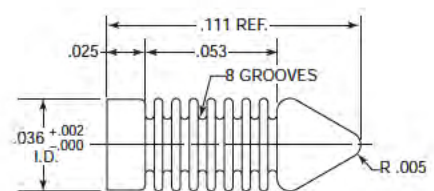
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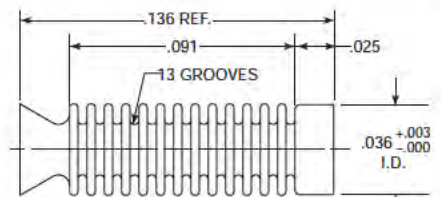
SK-18642



SK-18643



SK-18648



SK-18649

## SERVOMETER® ALSO MANUFACTURES

Couplings



Bellows



Electroforms



Company Profile



**Send for a Free Bellows Sample and Brochure!**



Precision Manufacturing Group, LLC

**Servometer®**

*"The Specialists in Precision Miniature Bellows" Since 1957*

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