

## PRODUCT CATALOG

# GUDEN

# GAS SPRINGS AND DAMPERS

"High-quality gas springs and dampers,  
perfect for motion control applications"



# GUDEN




## NOTICE

This is a revised copy of our print catalog, and it represents our latest offering. Please visit our website for the most up-to-date and complete:

- Product offerings - 2D drawings and 3D models
- Helpful design information
- Latest new items and specifications selection filters to find products fast

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# WELCOME TO GUDEN

Since 1920, Guden and its knowledgeable customer service team have been helping people get the perfect custom hardware that they need.

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To meet all your hardware needs, we carry an enormous supply of stock products including continuous hinges, butt hinges, gas springs and more in a wide variety of materials and finishes. And with our automated inventory management and product replenishment systems, we can accommodate demanding schedules and delivery requirements.

Guden has been solving manufacturers hardware supply problems for a century now, from horse buggies to lunar rovers, from file cabinets to data centers. Our staff has expert advice you need to save you time and money, even when your needs are complex and your schedule is tight.



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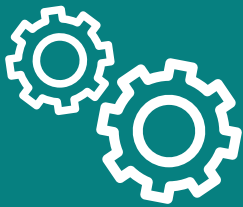
# STANDARD GAS SPRINGS

With a wide selection of nitrogen-pressurized gas springs in steel with black nitride rods and 316L stainless steel, Guden can offer solutions that meet your exact needs, all while providing long-term, reliable performance.



## We've got it all under control.

Lower or dampen, the Guden line of Standard Gas Springs will provide the controlled motion you need. From standard to stainless steel, to gas springs that lock, stop or even set to your required force, we can handle any application you propose.



## The applications.

From printer covers to hatches and resistance equipment — if the application requires lifting and holding, there's a Standard Gas Spring to do the job.



## Guden stocks standard gas springs.

In most cases, Guden can satisfy your application with a gas spring we have in stock. This allows you to specify a gas spring for any concept or configuration, even if only a small quantity is required.

# SPRING INTO ACTION WITH THE ULTIMATE BEST-SELLER

Our most popular product, the standard Gas Springs are reliable, lightweight and compact—able to lift up to 250 lbs.

1

### Heavy Gauge Steel Body

For structural reinforcement.

2

### Nitride Rod

For environmentally friendly superior performance.

3

### Heat Cured Paint

Prevents rusting.

4

### Hydraulic Fluid

Lubricates and dampens the shaft during every cycle.

5

### Piston Assembly

Provides maximum control during the extension stroke.



# STOCK PART NUMBERS AND SIZES

Stock Part No.	Rod Dia.	Tube Dia.	Stroke.	Ext Size.	P1 Force.
	(inches)	(inches)	(min)	(inches)	(lbs)
<b>GGN20</b>	0.32 (8mm)	0.71 (18mm)	3.25	9.60	20,30,60,90,120
<b>GGN21</b>	0.32 (8mm)	0.71 (18mm)	3.50	11.90	20,30,40,60,90,120
<b>GGN22</b>	0.32 (8mm)	0.71 (18mm)	5.00	15.25	20,30,40,60,90,120
<b>GGN23</b>	0.32 (8mm)	0.71 (18mm)	6.00	17.00	20,30,45,60,90,120
<b>GGN24</b>	0.32 (8mm)	0.71 (18mm)	7.00	19.63	20, 30, 60, 90, 120
<b>GGN26</b>	0.32 (8mm)	0.71 (18mm)	5.50	15.27	20,30,60,90,120,150
<b>GGN31</b>	0.39 (10mm)	0.87 (22mm)	10.00	27.80	100,120,150,200,250
<b>GGN38</b>	0.39 (10mm)	0.87 (22mm)	15.00	35.30	75,110,125,150,200,250
<b>GGN40</b>	0.24 (6mm)	0.59 (15mm)	2.00	7.50	20,30,40,60,80,100
<b>GGN42</b>	0.24 (6mm)	0.59 (15mm)	3.00	10.00	20,40,60,80,100
<b>GGN43</b>	0.24 (6mm)	0.59 (15mm)	3.15	9.60	20,30,40,50,60,80,90,100
<b>GGN44</b>	0.24 (6mm)	0.59 (15mm)	3.50	12.00	20,40,60,70,80,100
<b>GGN45</b>	0.24 (6mm)	0.59 (15mm)	5.00	14.50	20,40,60,80,100
<b>GGN46</b>	0.24 (6mm)	0.59 (15mm)	5.50	15.00	20,40,60,80,100
<b>GGN47</b>	0.24 (6mm)	0.59 (15mm)	6.18	17.19	20,30,40,60,80,100
<b>GGN48</b>	0.24 (6mm)	0.59 (15mm)	8.00	19.68	20,30,40,50,60,70,80,90
<b>GGN49</b>	0.24 (6mm)	0.59 (15mm)	8.12	20.00	20,30,40,60,80
<b>GGN201</b>	0.32 (8mm)	0.71 (18mm)	8.00	20.00	20, 30, 60, 90, 120
<b>GGN203</b>	0.32 (8mm)	0.71 (18mm)	8.50	23.03	30,60,90,120,150

- 1 Complete part number consists of stock part number plus the P1 force in lbs. plus the end fitting suffix, i.e., GGN21-060-C.
- 2 The P1 forces and end fittings listed are the standard sizes we normally stock.
- 3 See page 16 for ordering information on end fittings, ball studs, brackets and clips used for mounting.





# LOCKING GAS SPRINGS

Locking Gas Springs eliminate the need for separate rods in critical lift-assist applications. They lock in place when fully extended, protecting the operator from potential injury in the unlikely event of gas spring failure through overload or misuse.

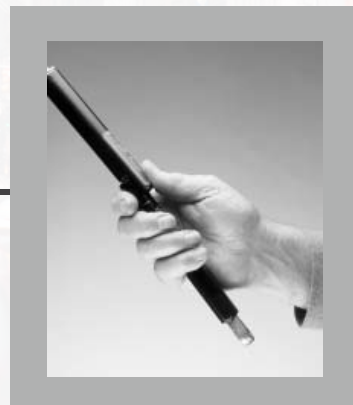
The Locking Gas Spring is simple to use and operates automatically. When the gas spring is fully extended, a spring-loaded locking shroud springs into place, preventing the gas spring from compressing. The Locking Gas Spring is manually released by applying thumb pressure to the locking shroud, allowing the gas spring to compress in a controlled manner.

The locking shroud is finished with the same epoxy coating as the gas spring body, providing excellent corrosion resistance and an attractive appearance. A guide inside the shroud prevents scratching of the gas spring cylinder.

Locking Gas Springs combine superior quality with the added safety feature required in many severe, heavy duty applications, such as trucks, construction machinery, switch gear and agricultural equipment. A single Locking Gas Spring can be used in conjunction with a Guden Standard Gas Spring.



**LOCKED**



**PRESS TO RELEASE**



Eliminates the need for separate safety rods in critical lift-assist operations.

# LOCKING GAS SPRINGS STOCK PART NUMBERS AND SIZES

Stock Part No.	Rod Dia. <i>(inches)</i>	Tube Dia. <i>(inches)</i>	Stroke. <i>(min)</i>	Ext Size. <i>(inches)</i>	P1 Force. <i>(lbs)</i>
ECL22	0.32 (8mm)	0.71 (18mm)	5.00	15.25	20,30,60,90,120
ECL23	0.32 (8mm)	0.71 (18mm)	6.00	17.00	20,30,60,90,120
ECL26	0.32 (8mm)	0.71 (18mm)	7.00	19.63	20,30,60,90,120
ECL31	0.39 (10mm)	0.87 (22mm)	10.00	27.80	100,120,150,200

- 1** Complete part number consists of stock part number plus the P1 force in lbs. plus the end fitting suffix, i.e., ECL23-090-C.
- 2** The P1 forces and end fittings listed are the standard sizes we normally stock.
- 3** See **page 16** for ordering information on end fittings, ball studs, brackets and clips used for mounting.

*\* Locking shrouds can be quoted on other standard sizes not listed.*

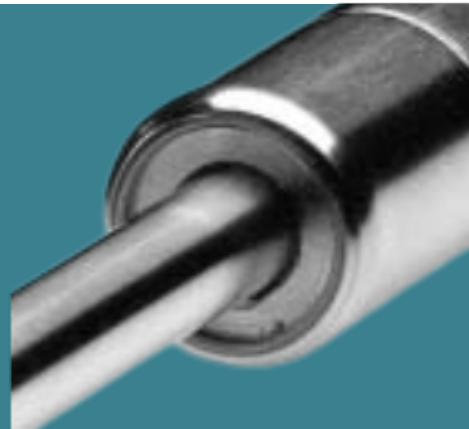
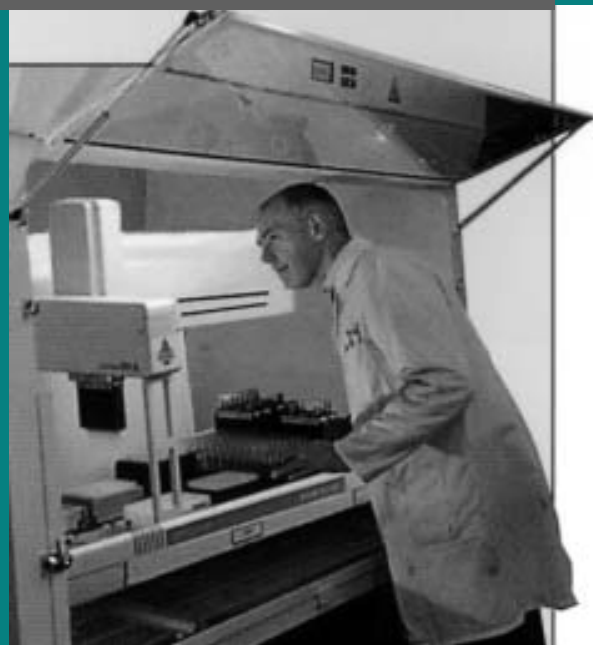


# 316L Stainless Gas Springs

For use in more corrosive applications, Guden offers our 316L Stainless Steel gas springs. Manufactured using 316L stainless steel, they offer increased corrosion resistance for industrial, marine and sterile environments.

316L Stainless Gas Springs are ideally suited for use in harsh environment applications requiring high levels of corrosion resistance, such as powerboat engine covers and doors. They are also well suited for applications requiring high levels of cleanliness such as the food and medical industries where highly corrosive cleaning materials are used.

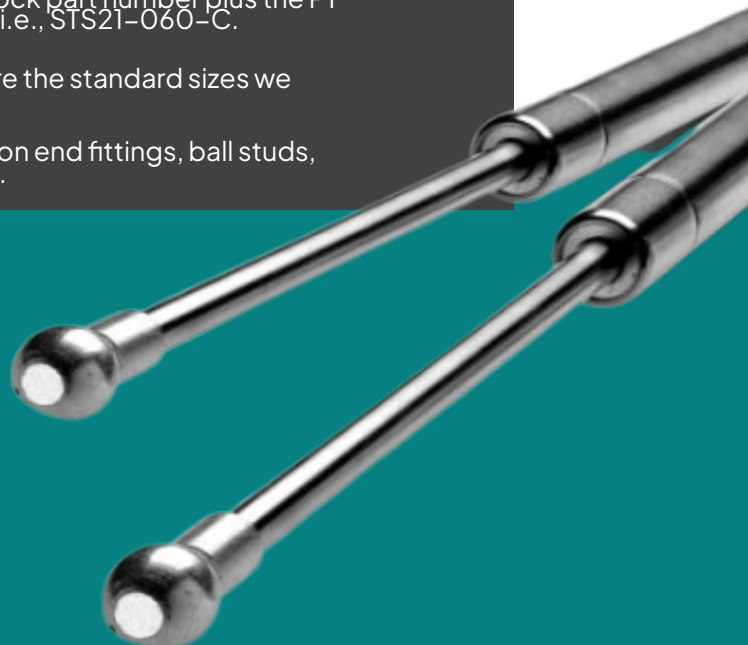
Designed for  
sterile environments.



## 316L Stainless Gas Springs Stock Sizes

Stock Part No.	Rod Dia.	Tube Dia.	Stroke.	Ext Size.	P1 Force.
	(inches)	(inches)	(min)	(inches)	(lbs)
<b>STS21</b>	0.32 (8mm)	0.71 (18mm)	3.50	11.90	20,30,60,90,120
<b>STS22</b>	0.32 (8mm)	0.71 (18mm)	5.00	15.25	20,30,60,90,120
<b>STS23</b>	0.32 (8mm)	0.71 (18mm)	6.00	17.00	20,30,60,90,120
<b>STS24</b>	0.32 (8mm)	0.71 (18mm)	7.00	19.63	20,30,60,90,120
<b>STS26</b>	0.32 (8mm)	0.71 (18mm)	5.50	15.27	150
<b>STS38</b>	0.39 (10mm)	0.87 (22mm)	15.00	35.30	150
<b>STS40</b>	0.24 (6mm)	0.59 (15mm)	2.00	7.50	20,40,60,80,100
<b>STS42</b>	0.24 (6mm)	0.59 (15mm)	3.00	10.00	20,40,60,80,100
<b>STS43</b>	0.24 (6mm)	0.59 (15mm)	3.00	9.58	20,40,60,80,100
<b>STS44</b>	0.24 (6mm)	0.59 (15mm)	3.40	12.00	20,40,60,80,100
<b>STS45</b>	0.24 (6mm)	0.59 (15mm)	5.00	14.45	20,40,60,80,100
<b>STS46</b>	0.24 (6mm)	0.59 (15mm)	5.50	15.00	20,40,60,80,100
<b>STS47</b>	0.24 (6mm)	0.59 (15mm)	6.18	17.19	20,40,60,80,100
<b>STS48</b>	0.24 (6mm)	0.59 (15mm)	7.90	19.65	20,40,60,80

- 1** Complete part number consists of stock part number plus the P1 force in lbs. plus the end fitting suffix, i.e., STS21-060-C.
- 2** The P1 forces and end fittings listed are the standard sizes we normally stock.
- 3** See [page 16](#) for ordering information on end fittings, ball studs, brackets and clips used for mounting.



High corrosion resistance for external and sterile environments.

# FRICITION STOP GAS SPRINGS

Friction Stop Gas Springs enable multi-position holding of a counter-balanced weight over the entire stroke of the gas spring. A modified version of the Standard Gas Spring, they are easy to fit by a simple screw adjustment to the correct level of support. Once fitted, finger-tip control allows movement to an position required. The lock-nut is adjusted to suit the application's weigh (about a half turn), thereby applying a "stick-slip" friction to the piston rod.

Friction Stop Gas Springs are ideal for a wide variety of applications such as sunbeds, printer canopies, monitor arms, acoustic hoods, deli-catessen counters and many more.



# ADJUSTABLE GAS SPRINGS

The Adjustable Gas Springs is designed to allow you to set the force of the gas spring before or during an installation. These gas springs are charged to their maximum force during manufacture. By using the standard tool provided, gas can be gradually released via the Adjustable valve to provide the force suited to your application. Once the force has been established, the Adjustable Gas Springs may be used as is, or returned to Gudex so we can provide you with fixed force Gas Springs set to your precise requirement.



FRICITION STOP SPRINGS

Stock Part No.	Rod Dia.	Tube Dia.	Stroke.	Ext Size.	P1 Force.
	(inches)	(inches)	(min)	(inches)	(lbs)
FRC21	0.32 (8mm)	0.71 (18mm)	3.46	11.90	20,30,60,90,120
FRC22	0.32 (8mm)	0.71 (18mm)	5.00	15.25	20,30,60,90,120
FRC23	0.32 (8mm)	0.71 (18mm)	6.00	17.00	20,30,60,90,120
FRC24	0.32 (8mm)	0.71 (18mm)	6.90	19.63	20,30,60,90,120

- 1 Complete part number consists of stock part number plus the P1 force in lbs. plus the end fitting suffix, i.e., FRC21-060-C.
- 2 The P1 forces and end fittings listed are the standard sizes we normally stock.
- 3 See page 16 for ordering information on end fittings, ball studs, brackets and clips used for mounting.

Provides multi-position holding of a counterbalanced weight.



ADJUSTABLE SPRINGS

Stock Part No.	Rod Dia.	Tube Dia.	Stroke.	Ext Size.	Thread	P1 Force.
	(inches)	(inches)	(min)	(inches)	(inches)	(lbs)
GGN220	0.32 (8mm)	0.71 (18mm)	3.94	10.39	M6-1.00	146
GGN221	0.32 (8mm)	0.71 (18mm)	5.91	14.33	M6-1.00	146
GGN222	0.32 (8mm)	0.71 (18mm)	7.87	18.27	M6-1.00	146
GGN24	0.32 (8mm)	0.71 (18mm)	7.00	19.36	M6-1.00	146
GGN310	0.39 (10mm)	0.87 (22mm)	11.81	25.20	M8-1.25	270
GGN410	0.24 (6mm)	0.59 (15mm)	2.36	6.30	M5-0.8	90
GGN411	0.24 (6mm)	0.59 (15mm)	3.94	9.45	M5-0.8	90

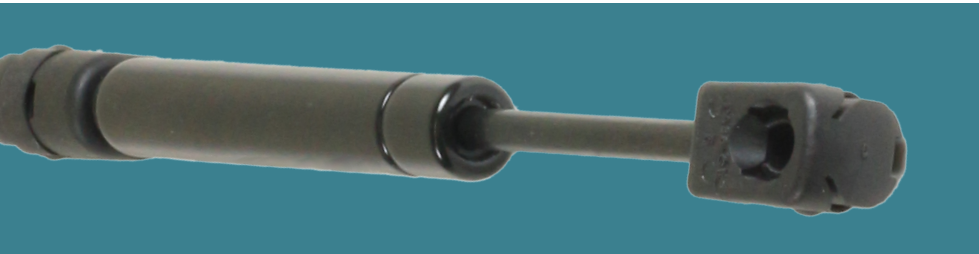
- 1 Complete part number consists of stock part number plus the P1 force in lbs. plus the end fitting suffix, i.e., GGN220-C.
- 2 The P1 forces and end fittings listed are the standard sizes we normally stock.
- 3 See page 16 for ordering information on end fittings, ball studs, brackets and clips used for mounting.



Designed to allow the force of the gas spring to be set before or during an installation.

# DAMPERS

Dampers are force-absorbing instead of force-supplying. They are used primarily where a heavy load or door must be lowered or swung in a controlled motion at a constant speed. For example, dampers prevent a door from slamming shut or swinging wildly open. Guden dampers are similar in appearance and construction to our GGN-X Gas Springs, except the tube is filled with hydraulic oil instead of charged gas, and the oil inside the damper must pass through an orifice plate, thus controlling speed.



## Two standard types.

Two types of standard dampers are available, depending on the direction of damping required.

### **Compression dampers.**

Compression dampers, which provide controlled speed in the compressive direction, operate best in the shaft-up position so that the internal piston remains in the oil. The lid or door should be closed before full compression is reached.

1

### **Extension dampers.**

Extension dampers, which provide controlled speed in an extensive direction, work best in the shaft down position. An extension damper is an excellent end-of-motion stop with appropriate end fittings: metal for heavier loads, and plastic for lighter loads.

2

---

*Custom dampers are available with extended lengths up to 26" and strokes up to 8". All dampers are also available on special order double-damped in both compression and extension.*

# DAMPER STOCK PART NUMBERS AND SIZES

Compression Series	Rod Dia.	Tube Dia.	Stroke.	Ext Size.	Stroke Min
	(inches)	(inches)	(min)	(inches)	(inches)
<b>GNC50</b>	0.24 (6mm)	0.59 (15mm)	6.47	10.39	2.00
<b>GNC51</b>	0.24 (6mm)	0.59 (15mm)	8.60	14.33	3.00
<b>GNC52</b>	0.24 (6mm)	0.59 (15mm)	11.08	18.27	4.00
<b>GNC53</b>	0.24 (6mm)	0.59 (15mm)	13.60	19.36	5.00
<b>GNC60</b>	0.32 (8mm)	0.87 (22mm)	10.82	25.20	4.00
<b>GNC61</b>	0.32 (8mm)	0.87 (22mm)	13.07	6.30	5.00
<b>GNC62</b>	0.32 (8mm)	0.87 (22mm)	15.59	9.45	6.00
<b>GNC63</b>	0.32 (8mm)	0.87 (22mm)	18.23	6.30	7.00

Heavy Damping	Med-Heavy Damping	Medium Damping	Med-Light Damping	Light Damping
C	J	D	N	E
C	J	D	N	E
C	J	D	N	E
C	J	D	N	E
J	D	E	F	S
J	D	E	F	S
J	D	E	F	S
J	D	E	F	S

**Note:** The complete part number consists of the Stock Part Number (above) plus the Orifice Plate Damping Identification (above) and the end fitting you require (see page 14), i.e., GNC50-D-C. The I, C and Fat Blade end fittings are stock.

Extended length is .24" longer with the "I" end fitting.  
 Items in light green type are not normally stocked, call for availability.



# Mini Gas Springs

With a wide selection of nitrogen-pressurized gas springs in steel with black nitride rods and 316L stainless steel, Guden can offer solutions that meet your exact needs, all while providing long-term, reliable performance.

Gas Springs, also often called Gas Lifts, Gas Struts, or Gas Props, come in three popular diameters and a variety of extended lengths, strokes, and pressures. They're used in a wide variety of motion control applications, such as truck caps, chest lids, doors, hatches, and covers. Gas Springs are easy to install, require minimal maintenance, and will work for years with no sign of wear or decay.

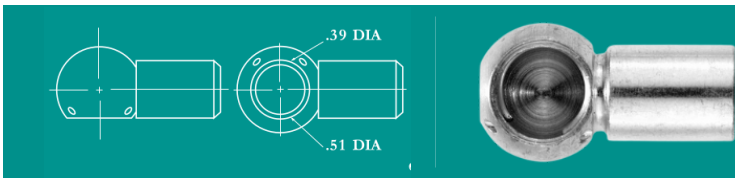


Black Nitride Series	316L Stainless Steel	Rod Dia.	Tube Dia.	Ext Size.	Stroke Min
	(inches)	(inches)	(min)	(inches)	(inches)
<b>GGN51</b>	<b>STS51</b>	0.16 (4mm)	0.47 (12mm)	4.54	0.90
<b>GGN52</b>	<b>STS52</b>	0.16 (4mm)	0.47 (12mm)	5.59	1.40
<b>GGN53</b>	<b>STS53</b>	0.16 (4mm)	0.47 (12mm)	6.55	1.90
<b>GGN54</b>	<b>STS54</b>	0.16 (4mm)	0.47 (12mm)	7.55	2.40
<b>GGN55</b>	<b>STS55</b>	0.16 (4mm)	0.47 (12mm)	8.59	2.90
<b>GGN56</b>	<b>STS56</b>	0.16 (4mm)	0.47 (12mm)	9.53	3.40

# End Fittings & Brackets

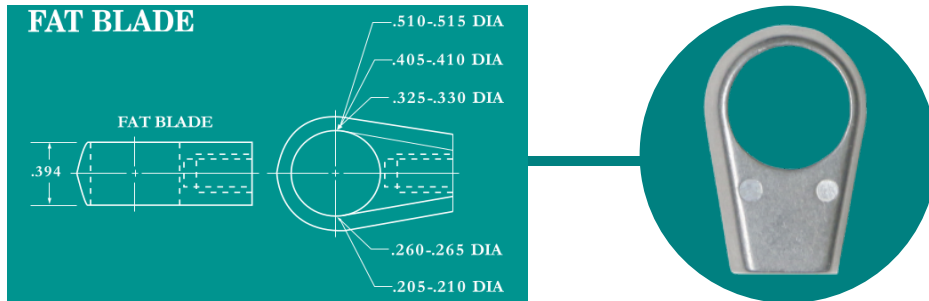
To complete Standard gas spring part number, specify the end connector suffix below, i.e., GGN21-060-C. Details on end connector applications and materials are available from Guden. Units are in inches.

## STEEL ZINC PLATED



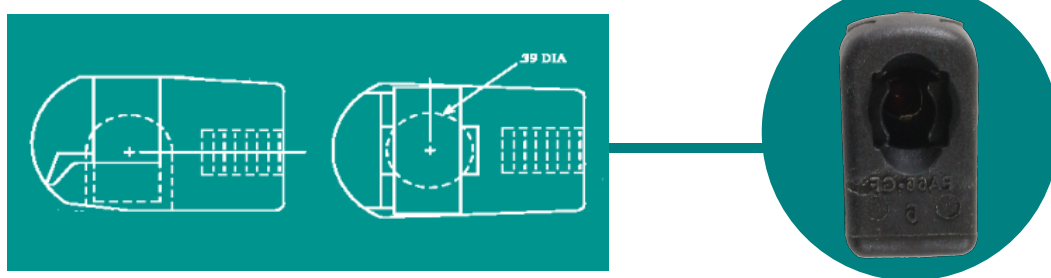
*"I" end fitting Max P1 Pressure = 200 lbs.  
"J" end fitting is only available on the  
GGN31 and GGN38.*

## FAT BLADE



**FAT BLADE**

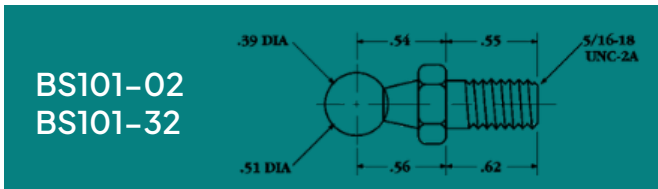
## PLASTIC w/ METAL CLIP



**PLASTIC w/ METAL CLIP**

# BRACKETS, BALL STUDS & CLIPS

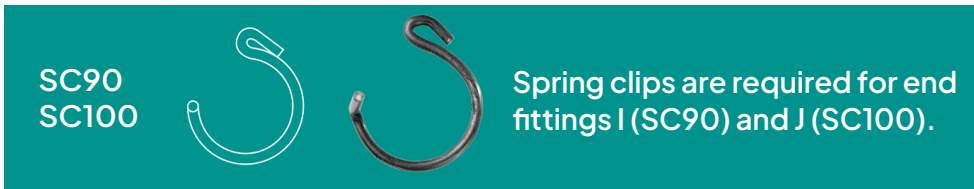
Specify part numbers for the brackets or ball studs required, including the material/finish suffix, as follows: -02 for steel with commercial zinc finish, -02B for steel with black zinc finish, or -32 for stainless steel. All the balls on the brackets are steel with commercial zinc finish. Brackets are not recommended for gas springs with P1 pressure in excess of 90 pounds. Use threaded ball studs.



BS101-02  
BS101-32

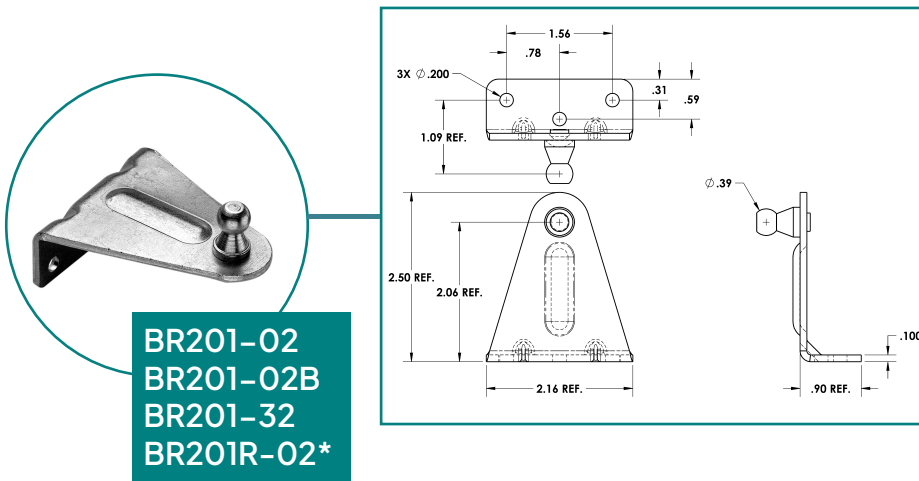


BS102-02  
BS102-32

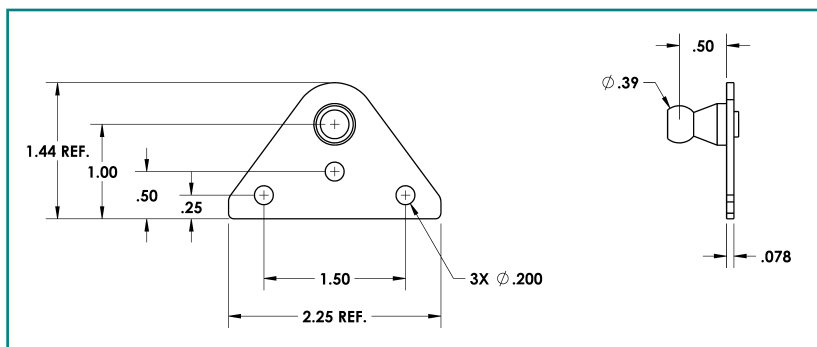


SC90  
SC100

Spring clips are required for end fittings I (SC90) and J (SC100).



BR201-02  
BR201-02B  
BR201-32  
BR201R-02\*



BR202-02  
BR202-02B  
BR202-32

# BRACKETS, BALL STUDS & CLIPS (Continued)

2.5  
1.00 REF.  
1.50  
2X  $\phi$ .200  
1.13 REF.  
.73 REF.  
2.00 REF.  
 $\phi$ .39  
.078  
.75 REF.

**BR204-02  
BR204-02B  
BR204-32  
BR204R-02\***

2.75  
1.88  
1.180  
.30  
.59  
.984  
2.160  
2X  $\phi$ .1690  
2X  $\phi$ .2560  
1.18  
.440  
.315  
 $\phi$ .39

**BR206-02**

1.50  
3X  $\phi$ .200  
.31 REF.  
.73 REF.  
1.42 REF.  
1.45 REF.  
.98 REF.  
2.00 REF.  
 $\phi$ .39  
.105  
1.23 REF.

**BR205-02  
BR205-02B  
BR205-32  
BR205R-02\*  
BR205R-02B\***

2.75  
1.18  
.78  
.30  
.59  
.984  
2.160  
2X  $\phi$ .1690  
2X  $\phi$ .2560  
1.18  
.440  
.390  
.98

**BR208-02**

4X  $\phi$ .1690  
2X  $\phi$ .2560  
 $\phi$ 2.170  
1.73  
.865  
1.181  
1.181  
1.614  
1.181  
1.181  
1.181  
 $\phi$ .39  
.472  
.315  
.078

**BR213-02**

2.75  
1.88  
1.180  
.30  
.59  
.984  
2.160  
1.690 DIA HOLE (2) PLACES  
.2560 DIA HOLE (2) PLACES  
MB X 1.25 THREAD  
.098 DIA HOLE  
.98  
.12  
.315  
.63 MIN.  
1.18

**BR210-02**

.1690 DI HOLE (4) PLACES  
.2560 DIA HOLE (2) PLACES  
2.170  
1.730  
.865  
1.181  
1.181  
1.614  
1.181  
1.181  
1.181  
MB X 1.25 THREAD  
.98  
.12  
.315  
.098 DIA HOLE  
.63 MIN.  
.078

**BR216-02**

2.75  
1.18  
.78  
.30  
.59  
.984  
2.160  
1.690 DIA HOLE (2) PLACES  
.2560 DIA HOLE (2) PLACES  
MB X 1.25 THREAD  
.098 DIA HOLE  
.98  
.12  
.98  
.118

**BR211-02**

# BLACK NITRIDE ROD VS. CHROME ROD GAS SPRINGS & DAMPERS

## ENVIRONMENTALLY FRIENDLY

Although our chrome rods use a RoHS compliant hard chrome plating, the Black Nitride rods are naturally RoHS compliant and are much more environmentally friendly both in manufacturing and disposal process.

## GREATER CORROSION RESISTANCE

The nitriding process actually case hardens the steel, infusing nitrogen into the material itself. In standard salt spray tests the Chrome plated rods are resistant up to 90 hours, while the Black Nitride rods are 150 hours.

## LONGER LIFE

Rod surface smoothness also directly affects the gas spring or damper life by significantly increasing the effectiveness of the seal. The smoother the surface, the better the seal, and less abrasion on the seal to cause wear or leakage. Nitride rod surface is nearly 30% smoother than the chrome.

## APPEARANCE

Visually the black rod gives a more modern and seamless appearance blending with the black painted tube.

## LOWER COST

The Black Nitride rod gas springs with the "C" connector are lower in price.

## STANDARD CONNECTOR

These gas springs feature the "C" connector which has a long proven track record, especially in the automotive industry. The connector's thick wall sections allow for good performance in cold conditions. It is a stronger connector with a thread tensile strength of 650 pounds compared to 450 pounds for the "K" connector. The steel spring clip has a higher salt spray rating (480 hours) than the black nitride rod (150 hours). Additionally, the "C" connector allows for easier assembly with no tools required.

**HAVE A  
QUESTION?  
WE'VE GOT  
ANSWERS.**

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