



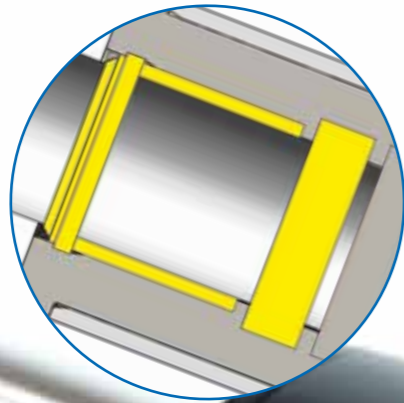
## INDUSTRIAL, HEAVY DUTY GAS SPRINGS

New extended range, from 1400N now up to 10000N



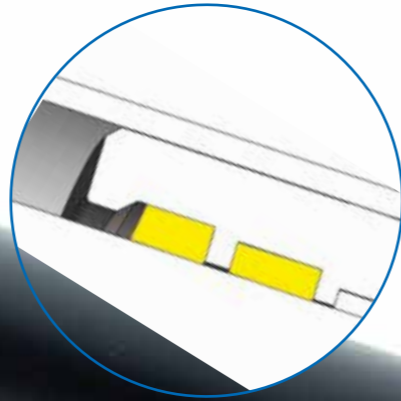
**Rod wipers** that prevent ingress of contaminants that can reduce gas spring life.

Tertiary wiper system comprises dual role redundancies. (See parts highlighted)



**NASS (NitroSpring Advanced Sealing Systems)** combination of specialist seal solutions offers unrivalled performance and durability compared to other gas spring products.

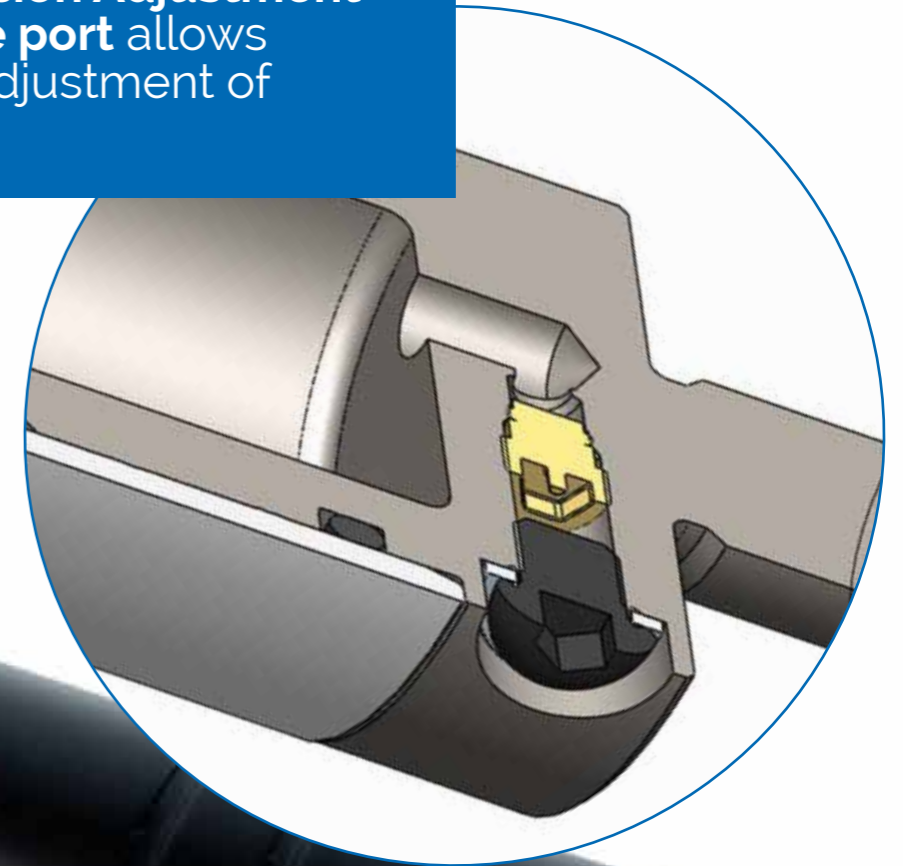
Advanced two stage sealing system. (See parts highlighted)



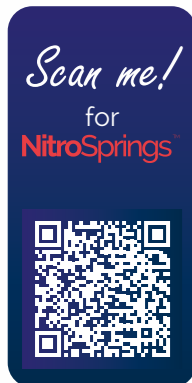
## Precision and versatility is a top priority of ours...

We've designed the range with this in mind. Therefore, you can adjust the force of NitroSpring products yourself, in a controlled manner with high accuracy. This can be done in the field, without having to remove it from the application, the ultimate in true versatility.

**PAV (Precision Adjustment Valve) side port** allows accurate adjustment of pressure.

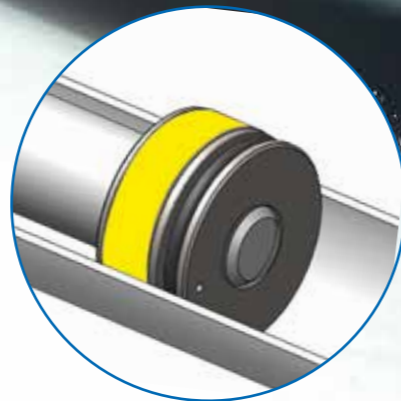


Scan here for more information and technical specifications:



**Enhanced dual guidance** system, reducing the effects of lateral loads and improving longevity for seals.

Tandem rod guidance components. (See parts highlighted)



All models available in **Stainless steel 316**



# NitroSprings™

Packed with advanced features, **NitroSprings** provides unrivalled performance, functionality and durability...

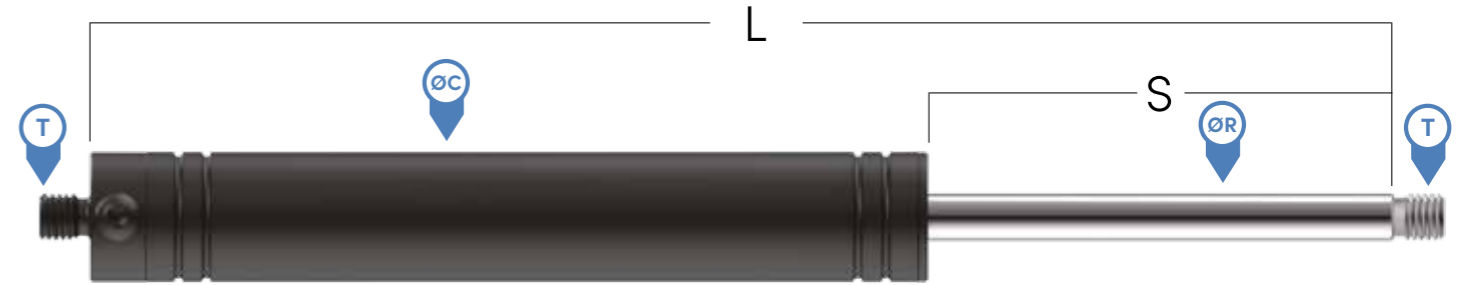
The various technical features available to this range offers the perfect solution; from advanced sealing systems that provide ultimate durability, to the versatility of being able to accurately adjust gas spring force in situ. Not to mention, our full service, including design, application consultancy, and prototyping means we provide more than just a product.

- Working Temp Range: -30°C to 80°C
- Material: Steel
- Rod Finish: QPQ
- Body Finish: Powder Coating
- Gaurantee: 2 years against manufacturing defects

## NitroSprings Range Overview

NitroSpring Product	Force Range (N)	Stroke Range (S) mm	Extended Length Range (L) mm	Rod Diameter (ØR)	Body Diameter (ØC)	Threads (T)	Force Progression
NS-10-28	230-1400	100-900	280-1880	10	28	M10x1.5x11	1.3 (30%)*
NS-14-28	450-2750		206-1806	14	28	M10x1.5x11	1.4-1.6 (40-60%)
NS-14-40	450-2700		211-1811	14	40	M14x1.5x15	1.2 (20%)*
NS-16-40	500-3500		280-1880	16	40	M14x1.5x15	1.2-1.5 (20-50%)*
NS-20-40	930-5600		211-1811	20	40	M14x1.5x15	1.4-1.5 (40-50%)*
NS-20-50	930-5650		206-1806	20	50	M14x1.5x15	1.3 (30%)*
NS-25-50	1450-8700		311-1911	25	50	M14x1.5x15	1.5-1.6 (50-60%)
NS-28-50	1800-10000		280-1880	28	50	M14x1.5x15	1.6-1.8 (60-80%)

\* Low force increase



### 10mm Rods up to 1400N

Low force increase

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-10-28-100	100	280
NS-10-28-150	150	380
NS-10-28-200	200	480
NS-10-28-250	250	580
NS-10-28-300	300	680
NS-10-28-350	350	780
NS-10-28-400	400	880
NS-10-28-450	450	980
NS-10-28-500	500	1080
NS-10-28-600	600	1280
NS-10-28-700	700	1480
NS-10-28-800	800	1680
NS-10-28-900	900	1880

### 14mm Rods up to 2750N

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-14-28-100	100	280
NS-14-28-150	150	380
NS-14-28-200	200	480
NS-14-28-250	250	580
NS-14-28-300	300	680
NS-14-28-350	350	780
NS-14-28-400	400	880
NS-14-28-450	450	980
NS-14-28-500	500	1080
NS-14-28-600	600	1280
NS-14-28-700	700	1480
NS-14-28-800	800	1680
NS-14-28-900	900	1880

### 14mm Rods up to 2700N

Low force increase

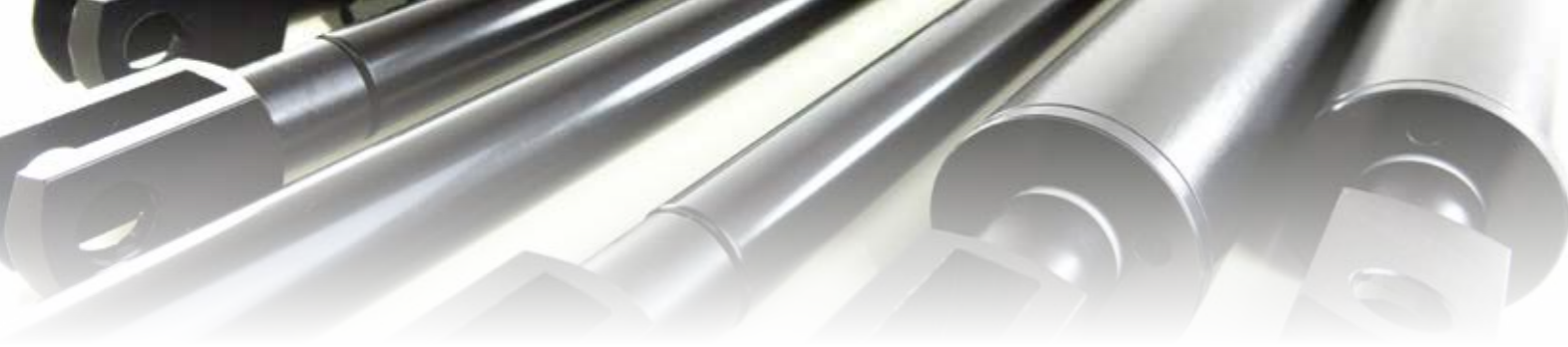
NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-14-40-100	100	311
NS-14-40-150	150	411
NS-14-40-200	200	511
NS-14-40-250	250	611
NS-14-40-300	300	711
NS-14-40-350	350	811
NS-14-40-400	400	911
NS-14-40-450	450	1011
NS-14-40-500	500	1111
NS-14-40-600	600	1311
NS-14-40-700	700	1511
NS-14-40-800	800	1711
NS-14-40-900	900	1911

### 16mm Rods up to 3500N

Low force increase

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-16-40-100	100	311
NS-16-40-150	150	411
NS-16-40-200	200	511
NS-16-40-250	250	611
NS-16-40-300	300	711
NS-16-40-350	350	811
NS-16-40-400	400	911
NS-16-40-450	450	1011
NS-16-40-500	500	1111
NS-16-40-600	600	1311
NS-16-40-700	700	1511
NS-16-40-800	800	1711
NS-16-40-900	900	1911

Example order: NS-10-28-100-1400 = 1400N force



# NitroSprings™

## FORCE ADJUSTMENT

Using the cylinder side located PAV (Precision Adjustment Valve), the following accessories provide the means to simply reduce the force, or the ability to increase and reduce the force.



### 20mm Rods up to 5600N

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-20-40-100	100	311
NS-20-40-150	150	411
NS-20-40-200	200	511
NS-20-40-250	250	611
NS-20-40-300	300	711
NS-20-40-350	350	811
NS-20-40-400	400	911
NS-20-40-450	450	1011
NS-20-40-500	500	1111
NS-20-40-600	600	1311
NS-20-40-700	700	1511
NS-20-40-800	800	1711
NS-20-40-900	900	1911

### 20mm Rods up to 5650N

Low force increase		
NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-20-50-100	100	311
NS-20-50-150	150	411
NS-20-50-200	200	511
NS-20-50-250	250	611
NS-20-50-300	300	711
NS-20-50-350	350	811
NS-20-50-400	400	911
NS-20-50-450	450	1011
NS-20-50-500	500	1111
NS-20-50-600	600	1311
NS-20-50-700	700	1511
NS-20-50-800	800	1711
NS-20-50-900	900	1911

### 25mm Rods up to 8700N

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-25-50-100	100	311
NS-25-50-150	150	411
NS-25-50-200	200	511
NS-25-50-250	250	611
NS-25-50-300	300	711
NS-25-50-350	350	811
NS-25-50-400	400	911
NS-25-50-450	450	1011
NS-25-50-500	500	1111
NS-25-50-600	600	1311
NS-25-50-700	700	1511
NS-25-50-800	800	1711
NS-25-50-900	900	1911

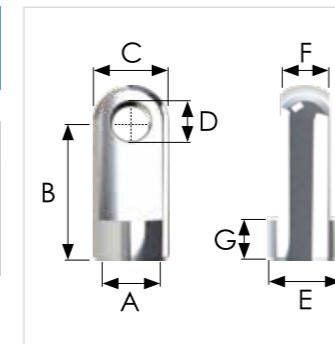
### 28mm Rods up to 10000N

NitroSpring Product	Stroke Range (S) mm	Extended Length Range (L) mm
NS-28-50-100	100	311
NS-28-50-150	150	411
NS-28-50-200	200	511
NS-28-50-250	250	611
NS-28-50-300	300	711
NS-28-50-350	350	811
NS-28-50-400	400	911
NS-28-50-450	450	1011
NS-28-50-500	500	1111
NS-28-50-600	600	1311
NS-28-50-700	700	1511
NS-28-50-800	800	1711
NS-28-50-900	900	1911

## STANDARD END FITTINGS

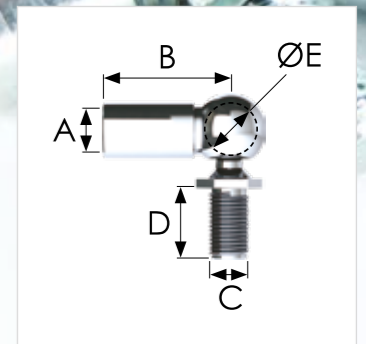
### Steel Eye Ends

Code	A	B	C	D	E	F	G
E11	M10	22	20	10	20	11.8	10
E12	M10	30	20	10	20	11.8	14
E13	M10	35	20	10	20	11.8	16
E14	M14	40	25	14	25	13.8	20



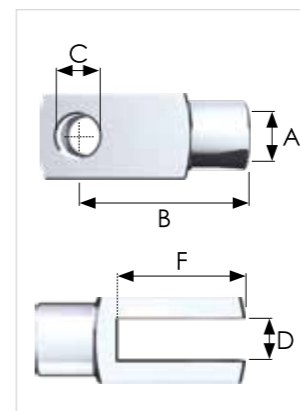
### Steel Ball Joints

Code	A	B	C	D	E
B13	M10	25	M10	20	16
B13-A	M10	25	M8	16	13
B14	M10	30	M10	20	16
B14-A	M10	30	M8	16	13
B15	M10	35	M10	20	16
B15-A	M10	35	M8	16	13
B16	M14	45	M14	28	30



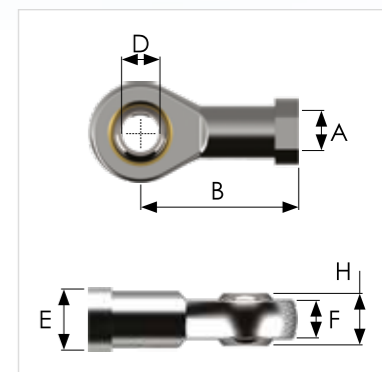
### Steel Clevis Forks

Code	A	B	C	D	F
C3	M10	40	10	10	32
C4	M14	56	14	14	44



### Steel Rose Eyes

Code	A	B	D	E	F	H
RE12	M10	43	10	17	10.5	14
RE16	M14	57	14	22	13.5	19



Example order: NS-20-40-100-5600 = 5600N force

# Lesjöfors worldwide



Available, serviced  
and supported  
through the  
Lesjöfors global  
distribution  
network.



Prototyping



CAD Design



Technical  
Calculations



Field Testing



FEA Analysis



Production



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