Tanker® 400 XP Series

NITROGEN GAS SPRINGS

IDEAL NITROGEN GAS SPRINGS FOR HIGH PERFORMANCE (TNK 400) AND HIGH SPEED (TNK 400HS)

2 million

Certified to ISO 9001:2008

TÜVRheinland
Precisely Right.

HYSON
Metal Forming Solutions™

GENUINELY HYSON

Since 1964, HYSON has been dedicated to providing safer and more reliable products with worldwide support and service. We are continually at the forefront of innovative product design, and engineer forward-thinking features into our self-contained springs, which enable our customers to provide safer working environments.

Our nitrogen gas springs, which comply with all major industry standards, are designed to reduce the risk of tool damage and injuries and include at least one of the following safety features:

Overstroke Protection:
In the event of an overstroke, the HYSON cylinder is designed to fail-safe and release pressure in a predefined manner with deformation or knockout plug.

Overpressure Protection:
Designed to vent excessive gas in the event that the spring becomes overpressured, deformation of the safely lip guide or separation of disc will occur.

Overload Protection:
The piston rod is designed for controlled gas venting between the seal and the piston rod with a specially designed guide and fundamental safety stop in the event of an overload caused by a jammed tool, part or rod side-load.

Additionally, the majority of HYSON springs are **PED** (Pressure Equipment Directive) approved to withstand a minimum of 2 million full cycles according to PED (2014/68/EU). Many of our competitors are in compliance of PED, but compliance is unequal to the 2 million cycle test and approval that HYSON gas springs have undergone. This is one more assurance that with HYSON Nitrogen Gas Springs, you receive an added value of reliability and operational excellence.

GENUINELY HYSON SAFETY APP

Created to enable safer working environments and fight against unsafe counterfeit springs in manufacturing facilities around the globe, the Genuinely HYSON Safety App authenticates nitrogen gas springs with HYSON labeling have the design and safety features customers have come to expect with the HYSON brand. The app is available for download at www.HysonSolutions.com.

IDEAL NITROGEN GAS SPRINGS FOR HIGH PERFORMANCE AND HIGH SPEED

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General Information

HYSON, headquartered in Brecksville, Ohio, is a world class engineering and manufacturing company that provides high-quality, safety-engineered force and motion control solutions for a wide range of applications and industries, including automotive, aerospace, appliance, medical and HVAC. HYSON partners with our customers to understand applications and provide the best solutions for each one. We are a full service force control provider for critical machine, vehicle and precision metal processing applications, meaning we can supply dependent upon each customer's needs, including: gas springs, cam systems, cushions, manifolds and knockout systems.

Our success lies with our commitment to continually improve ourselves, our processes and our products to ensure we meet or exceed our customers' expectations. Our ISO-9001, AS-9100 and PED certifications attest to our ongoing commitment to the highest standards of quality.

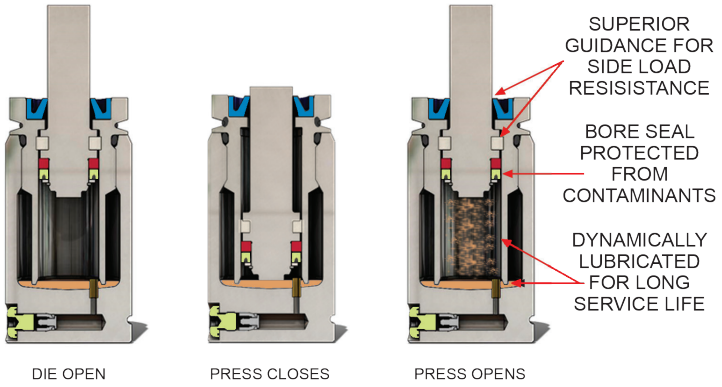
Product Value

The ideal gas spring for maximum life, the TNK 400 XP Series is designed for use in applications where long service life is important. The TNK 400 offers superior guidance for side load resistance, a bore seal for contamination resistance, and dynamic lubrication for long service life. The TNK 400 HS has all the features of the TNK 400 with the added benefit of being designed for high speed production environments.

Product Features

- Engineered for high performance, long service life.
- Dynamic lubrication circulates oil onto seal surfaces with every stroke.
- Improved service life compared to coil springs.
- Bore seal design for superior contamination resistance.
- Preloaded by gas pressure. Does not require compression in the die to preload.
- Available as self-contained or in a hosed system.
- Variety of mounting options provides flexibility in die design.

Dynamic Lubrication Extends Gas Spring Life



The patented dynamic lubrication system coats the gas spring wall, piston and seal with oil on every stroke of the press to reduce heat build-up and lower operating temperature, which in turn, reduces wear on die components and extends performance life.

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Product Specifications

Pressure Medium	Nitrogen Gas
Max. Charging Pressure	150 bar/2175 psi
Min. Charging Pressure	25 bar/360 psi
Max. Operating Temperature	80°C/176°F
Maximum Piston Rod Velocity	35 m/min / 115 ft/min
Maximum Utilized Stroke	100%
Maintenance Tool (Socket Wrench Cap)	**SW-TNK400**
Charge Fitting	**T2-770-T3**

Ordering Instructions

TNK 400 X **.25**

MODEL TNK-400 — **STROKE (in)** See Dimensional Information Charts

TNK 400 X **.25** **HS**

MODEL TNK-400HS — **STROKE (in** See Dimensional Information Charts

All gas springs shipped at maximum charge pressure unless otherwise specified.

Repair Kits

Gas Spring	Repair Kit Order Number
TNK 400 Series	**56-072-7000**
TNK 400 HS Series	**56-072-7000-HS**

Recommended Hose System

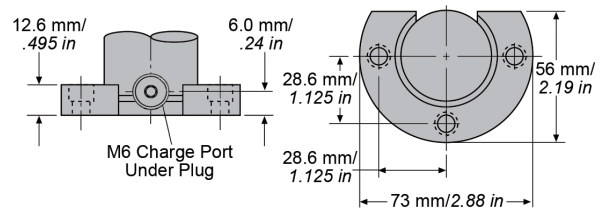
Micro24™ Hose & Tube System

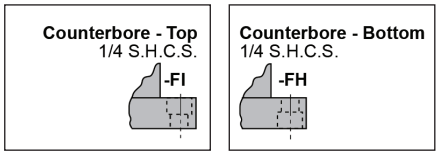
– See catalog for full details.

TNK 400 Flange Mount

Order Numbers:

- To order CYLINDER with FLANGE, specify "**-FI**" (for top counterbore) or "**-FH**" (for bottom counterbore) after the Order Number. Example: TNK 400X1.00-FH.
- To order FLANGES ONLY - **56-072-2002**
- To order LOCKING WIRE ONLY - **56-072-2004**





NOTES:

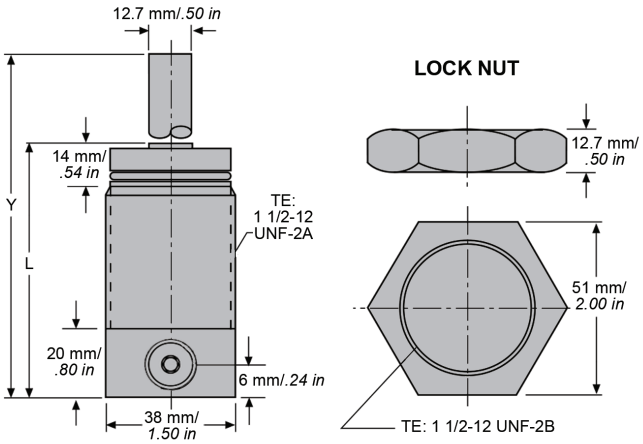
- The base of the spring extends past the bottom of the flange when assembled.
- The gas spring will sit flush once it is bolted down.

DO NOT GRIND THE GAS SPRING!

TNK 400 Threaded Body

Order Numbers:

- To order CYLINDER with LOCK NUT, specify "**-TE**" after the Order Number. Example: TNK 400X1.00-TE.
- To order LOCK NUT ONLY - **56-072-2013**



NOTES:

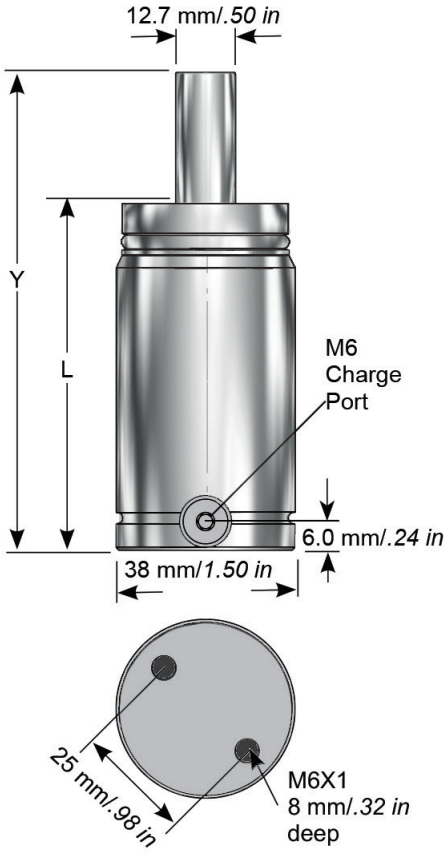
- One lock nut is included with each threaded body spring.
- The TNK 400-TE can be threaded into the die gas spring port from the piston rod end only.

TNK 400

SUPERIOR SERVICE LIFE AS COMPARED TO STANDARD SPRINGS

Advanced Safety Features

Overpressure Protection



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NOTE: Bottom mounting threads available in metric only.

TNK 400 Dimensional Information

Order Number Model X Stroke	Stroke S		Initial Force Force*		End Force at Full Stroke*		L		Y		Gas Volume	Weight	
									mm	in			
	mm	in	N	lbf	N	lbf	mm	in	±0.25mm	± 0.010 in	ℓ	kg	lbs
TNK 400X.25	6.3	0.25	3940	885	6655	1496	57.2	2.25	63.5	2.5	0.004	0.380	0.84
TNK 400X.50	12.7	0.50			6699	1506	63.5	2.50	76.2	3.0	0.008	0.411	0.91
TNK 400X.75	19.0	0.75			6708	1508	69.9	2.75	88.9	3.5	0.012	0.442	0.98
TNK 400X1.00	25.4	1.00			6717	1510	76.2	3.00	101.6	4.0	0.016	0.474	1.04
TNK 400X1.50	38.1	1.50			6726	1512	88.9	3.50	127.0	5.0	0.024	0.537	1.18
TNK 400X2.00	50.8	2.00			6730	1513	101.6	4.00	152.4	6.0	0.032	0.599	1.32
TNK 400X2.50	63.5	2.50			6730	1513	114.3	4.50	177.8	7.0	0.040	0.662	1.46
TNK 400X3.00	76.2	3.00			6730	1513	127.0	5.00	203.2	8.0	0.048	0.724	1.60

* at full charge

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TNK 400HS

DESIGNED FOR HIGH SPEED APPLICATIONS

Advanced Safety Features

Overpressure Protection

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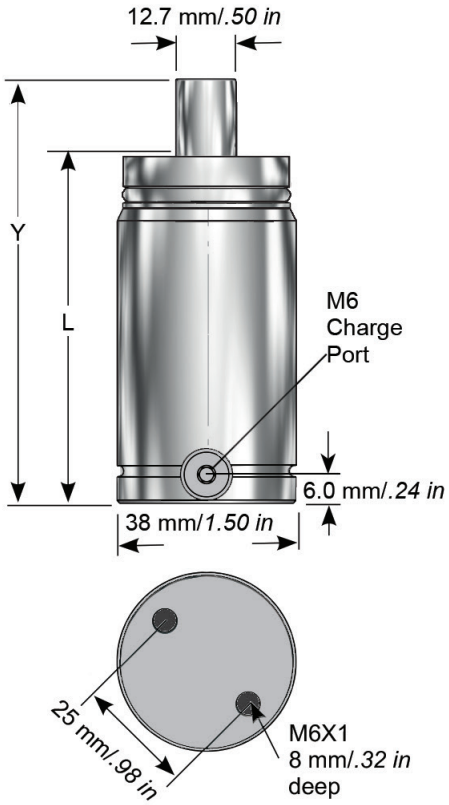

NOTE: Bottom mounting threads available in metric only.

TNK 400HS Dimensional Information

Order Number Model X Stroke	Stroke S		Initial Contact Force*		End Force at Full Stroke*		L		Y		Gas Volume	Weight	
									mm	in			
	mm	in	N	lbf	N	lbf	mm	in	±0.25mm	± 0.010 in	ℓ	kg	lbs
TNK 400X.25 HS	6.3	0.25	3940	885	4391	1150	76.2	3.00	82.5	3.25	0.016	0.455	1.00
TNK 400X.50 HS	12.7	0.50			4392	1222	101.6	4.00	114.3	4.50	0.032	0.562	1.24
TNK 400X.75 HS	19.0	0.75			4392	1259	127.0	5.00	146.1	5.75	0.048	0.668	1.47
TNK 400X1.00 HS	25.4	1.00			4569	1278	127.0	5.00	152.0	6.00	0.048	0.674	1.49

* at full charge

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