



Product approved according to Pressure Equipment Directive (PED) 2014/68/EU for min 2,000,000 full strokes.

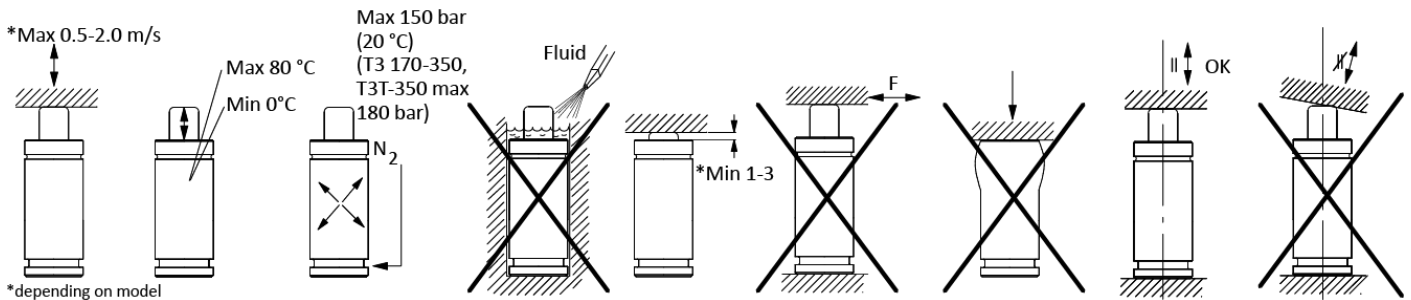
Use of Nitrogen Gas Springs

Models	Sizes
NP	500 to 10000
T3	170 to 20000
T3T	350 to 9500
T3F	750 to 2400
T4	750 to 20000
SRS	750 to 5000
NDS	3000 to 7500
NPL	750 to 7500
T4SC	420 to 18300



To achieve the best possible service-life and safety from the gas spring, the instructions below must be followed. The gas spring is intended for use in tool and machine applications. For marking and general information of the product, see the back page.

Use of Nitrogen Gas Springs



Product Specifications

Pressure Medium	Nitrogen gas, N ₂
Max. charging pressure (T3 170-350, T3T-350 max. 180 bar)	150 bar/2175 psi
Min. charging pressure	20 bar/290 psi
Operating temperature	0-+80°C
Max, piston rod velocity	1.6 m/s (T4SC 0.8 m/s)
Force increase by temp	0.3% / °C
Max. strokes/min	See HYSON catalogs

Mounting instructions

Secure the gas spring to the tool/machine whenever possible, using the threaded hole(s) in the base of the gas spring or a suitable flange.

The threaded hole in the piston rod top should not be used for mounting purposes. It is only to be used when servicing the gas spring.

Do not use the gas spring in such a way that the piston rod is released freely from its compressed position, as this could cause internal damage to the gas spring.

Make sure the gas spring is mounted parallel to the direction of the compression stroke.

Ensure the contact surface of the piston rod top is perpendicular to the direction of the compression stroke and is sufficiently hardened.

The gas spring should not be subjected to side loads. Protect the piston rod against mechanical damage and contact with fluids.

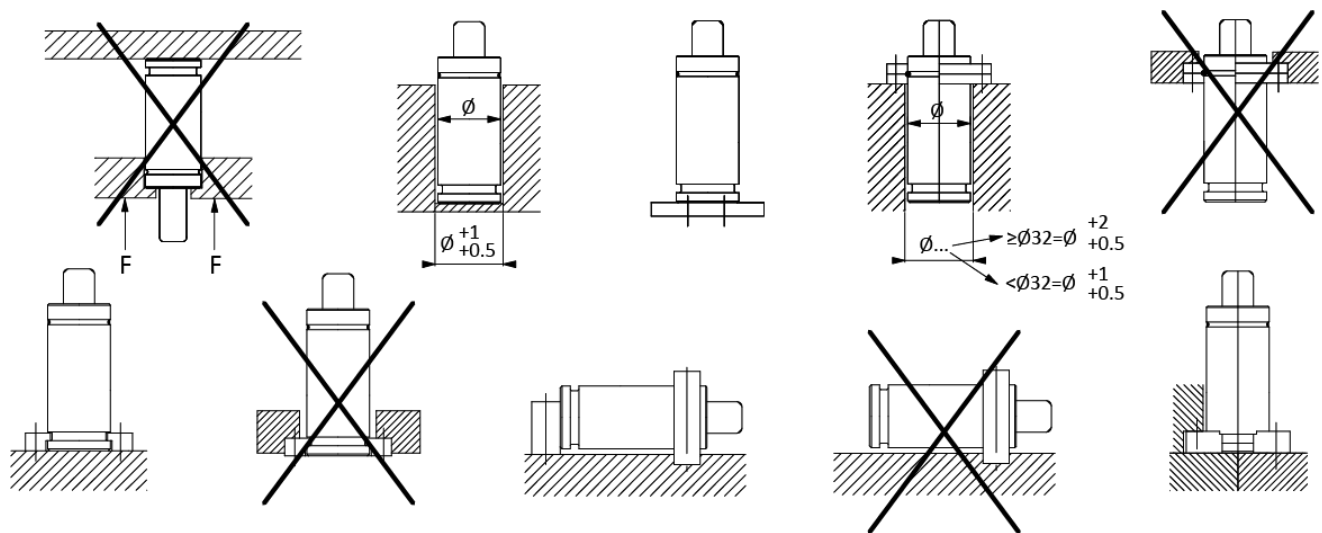
We do not recommend the last 5 mm or the last 10% of the nominal stroke being utilized.

The maximum charging pressure (at 20 °C) must not be exceeded, as it may effect the safety of the product.

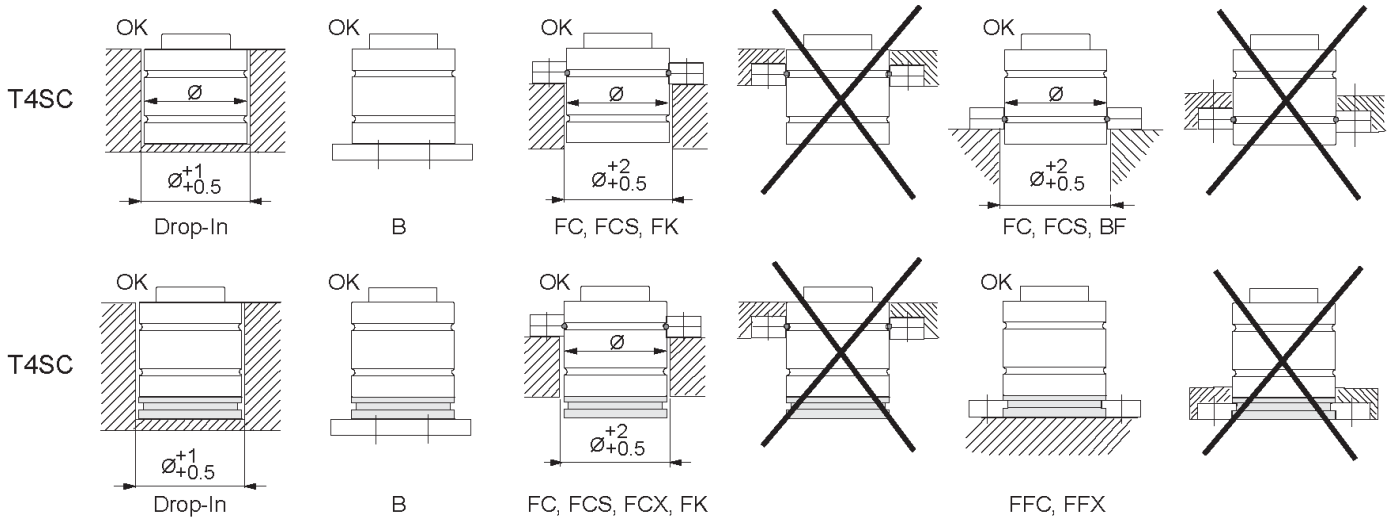
Exceeding the gas spring's recommended operating temperature will shorten the service life of the gas spring.

Mounts

Below are the various gas spring mounting possibilities, which differ from model to model. Only use mounts manufactured or approved by HYSON.



Below are the various gas spring mounting possibilities for the T4SC models.



Service Information

All HYSON gas springs included in this user guide are approved for min. 2,000,000 full strokes.

⚠ Caution! Never work in the tool before the piston rod is in its upper position.

⚠ Caution! Make sure the gas spring is empty of gas before handling.

If correctly installed and used, the following minimum gas spring service-intervals can be expected:

- Stroke lengths up to and including 50 mm—1,000,000 strokes.
- Stroke lengths above 50 mm—100,000 stroke meters.

The gas springs are fully serviceable (except T3 170-320, T4SC-420 and T3/T3T/T3F 2400-16 is not recommended to be repaired as the lock ring is difficult to remove). To service a gas spring, repair kits and tool kits are available, see HYSON product catalog for seal kit number. Service instructions are included with every repair kit.


⚠ Caution! Only specially trained personnel with a good knowledge of the products should service the gas spring. Mistakes made during assembly and charging may infringe on safety and/or detrimentally effect the service-life of the gas spring.

⚠ Caution! Do not modify the product in any way.

For more information see www.HysonSolutions.com or contact your local distributor.

Product MarkingHYSON XXX¹-YYY²-ZZZ³

PCHARGE MAX 150 BAR AT 20°C

TS -20/80°C PS 0/xx⁴ BARVY.Y⁵L FLUID N₂ GR2  0409

MADE IN SWEDEN

¹ Model	² Size	³ Stroke [mm]	⁴ Design Pressure [bar]	Test Pressure [bar]	⁵ Gas Volume [L]*
NP/NDS/NPL	3000	25 - 300	374	535	0.2 - 1.9
NP/NDS/NPL	5000	12.7 - 300	393	562	0.2 - 3.3
NP/NDS	7500	25 - 300	377	539	0.4 - 5.2
NP	10000	25 - 300	343	490	0.8 - 6.1
T3/T3T	6600	19 - 125	361	516	0.3 - 1.5
T3/T3T	9500	19 - 125	364	520	0.2 - 2.2
T3	20000	25 - 125	364	520	1.4 - 4.3
SRS	1500	125 - 300	252	360	0.7 - 1.6
SRS	3000	125 - 300	273	390	1.0 - 2.4
SRS	5000	125 - 300	279	399	1.8 - 4.0
T4	2400	25 - 300	373	533	0.2 - 1.3
T4	4200	25 - 300	376	538	0.4 - 2.2
T4	6600	25 - 300	361	516	0.7 - 3.6
T4	9500	25 - 300	364	520	1.1 - 5.4
T4	20000	25 - 300	364	520	1.0 - 10.2
NPL	7500	25 - 300	344	492	0.6 - 3.6
T4SC	11800	10 - 65	295	422	0.3 - 1.9
T4SC	18300	10 - 65	293	420	0.6 - 2.9

Notes:

*Not compressed gas volume and CE mark only for gas springs with gas volume >1L.

TS: Design temperature