

**Flexible, high load resistance, ever young - NSP - springs are the best solution for your problems!**

Do not worry any longer about the great expenditure to be spent on dismantling, replacing and adjusting worn-out spring sets. With the new NSP-springs, spring pressure is produced by gas and not by material stress putting end to high set-up costs and idled machines.



**NSP - NITRO-SPRING-PACK - The innovation in spring technique!**

The N2-spring-pack NSP consists of a pressure box containing a ring- or rail-shape arranged number of spring-mounted bolts. The bolts are kept in their position by non-toxic and totally harmless nitrogen gas. NSP stands for NITRO-SPRING-PACK.

**Bunched load on minimum space!**

**The NSP-SPRING-PACK is the most revolutionary alternative to conventional disk-spring-units**

### Summary of advantages

- full spring load at start position of piston stroke
- load adjustable by user
- constant load all over service life
- bunched load on minimum space
- solid construction, long service life
- insensitive to entanglement, e. g. caused by worn out guides
- Full compatibility to conventional disk-springs
- Many new application possibilities due to vacant space in the center of the ring-shaped spring
- Extreme flat constructional height
- Can be supplied in product line STANDARD and AUTONOMIC
- high force of stripping in connection with cutting tools
- Can be used as die cushion
- More deflection with same constructional height compared to disk-springs
- Working speed of max. 41m/min or 0,68 m/sec.
- admissible operation temperature of max. 80°C, short-term 100° C.

### **N2-Spring-Pack type NSP** (Nitro-Spring-Pack) product line "STANDARD"

for external filling via hose connection, hose pipe, control instrument and compentor reservoir.

- full spring load at start position of piston stroke
- load adjustable by user
- constant load all over service life
- bunched load on minimum space
- solid construction, long service life

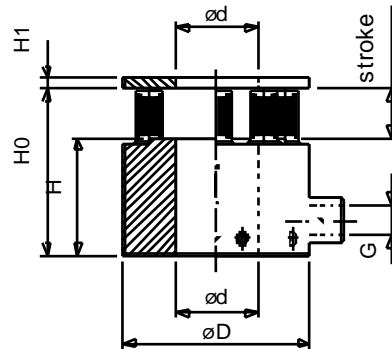
### **N2- Spring-Pack type NSP** (Nitro-Spring-Pack) product line "AUTONOMIC"

can be delivered as pre-set, independent unit, with feeding valve, without hose connection.

- high spring load at start position of piston stroke
- constant load all over service life
- bunched load on minimum space
- solid construction, long service life
- full compatibility to conventional disk-spring-units

If you desire more information, do not hesitate to ask for our main catalogue or have a look on our Internet home-page.

### N2-Spring-Pack type NSP (Nitro-Spring-Pack) product line "STANDARD"



Standard delivery pack without pressure disk type DS, if required, please order separately.

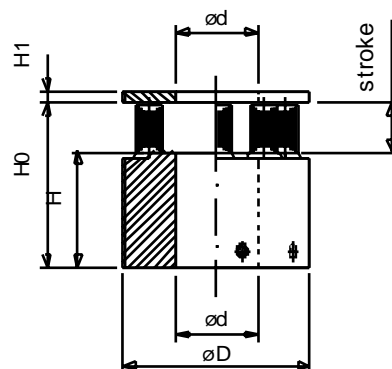
Fill with gas only when installed!  
Compressor reservoir can be delivered on demand!

(1) max. adm. working pressure 150 bar!

Subject to dimensional changes!  
Further dimensions on demand!

D	d	stroke S	H0	H	H1	G	F1 (N) 50bar	F2 (N) 100bar	F3 (N) 150bar (1)	type article-No.
60	25	15	68	53	4	G1/8"	5064	10128	15920	S 06002515 -8 -13
		30	98	68	S 06002530 -8 -13					
80	35	15	68	53	3	UNF 1/2-20	8038	16077	24115	S 08003515 -8 -16
		30	98	68	S 08003530 -8 -16					
		50	138	88	S 08003550 -8 -16					
100	45	20	83	63	5	UNF 1/2-20	12560	25120	37680	S 10004520 -8 -20
		40	123	83	S 10004540 -8 -20					
		60	163	103	S 10004560 -8 -20					
125	60	30	113	83	6	UNF 1/2-20	19625	39250	58875	S 12506030 -8 -25
		50	153	103	S 12506050 -8 -25					
		70	193	123	S 12506070 -8 -25					

### N2-Spring-Pack type NSP (Nitro-Spring-Pack) product line "AUTONOMIC"



Standard delivery pack without pressure disk type DS, if required, please order separately.

- (1) max. adm. filling pressure
- (2) load at max. adm. working pressure 150 bar!
- (3) ratio load at start and end position of piston stroke.

Subject to dimensional changes!  
Further dimensions on demand!

D	d	stroke S	H0	H	H1	F1 (N)	P1 (bar) (1)	F max (N) (2)	spring-rate N/mm	I F1/Fmax (3)	type article-No.
60	25	15	78	63	4	7473	93	11940	300	1,61	A 06002515 -6/2 -13
		30	108	78	6087	77	195	1,96	A 06002530 -6/2 -13		
80	35	15	78	63	5	11825	98	18086	417	1,53	A 08003515 -6/2 -16
		30	108	78	9890	82	273	1,83	A 08003530 -6/2 -16		
		50	138	98	9204	76	222	2,07	A 08003550 -6/2 -16		
100	45	20	93	73	5	17514	93	28260	537	1,61	A 10004520 -6/2 -20
		40	133	93	14692	78	339	1,92	A 10004540 -6/2 -20		
		60	173	113	13940	74	286	2,03	A 10004560 -6/2 -20		
125	60	30	123	93	6	25962	88	44156	606	1,70	A 12506030 -6/2 -25
		50	163	113	22944	78	424	1,93	A 12506050 -6/2 -25		
		70	203	133	24186	82	499	1,83	A 12506070 -6/2 -25		