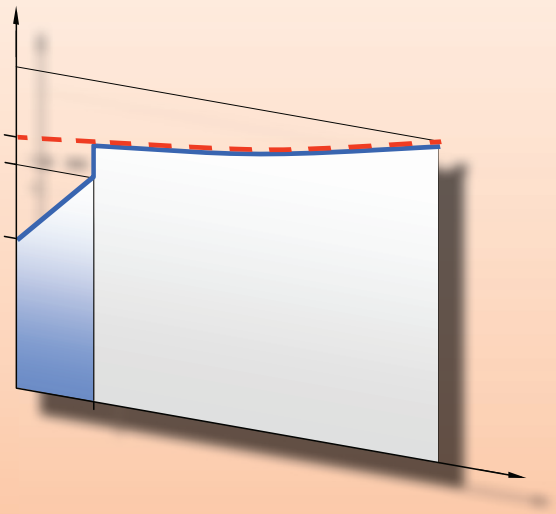



- Noise reduction
- Vibration reduction
- Low contact force
- More efficient working environment



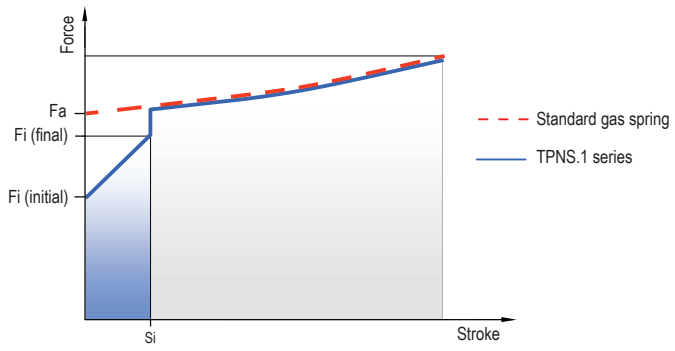
Cylinders with impact dampening

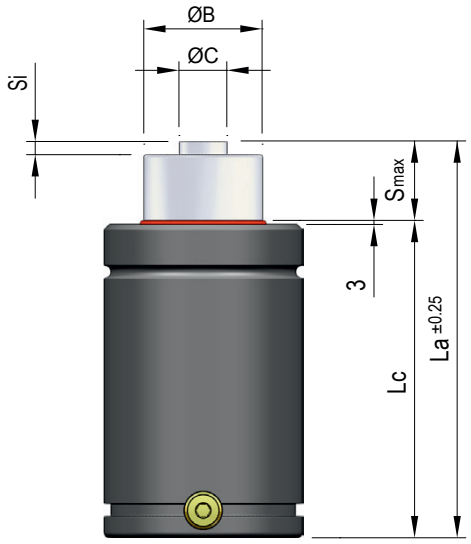
| Code | ØBody mm | Strokes mm | Fa daN | |
|---|---|---|---|---|
| TPNS 750.1 | 50 | 25 - 300 | 750 | |
| TPNS 1500.1 | 75 | 25 - 300 | 1500 | |
| TPNS 3000.1 | 95 | 25 - 300 | 3000 | |
| TPNS 5000.1 | 120 | 25 - 300 | 5000 | |
| TPNSR 1500 | 75 | 125 - 200 | 1500 | ✓ |
| TPNSR 3000 | 95 | 125 - 200 | 3000 | ✓ |

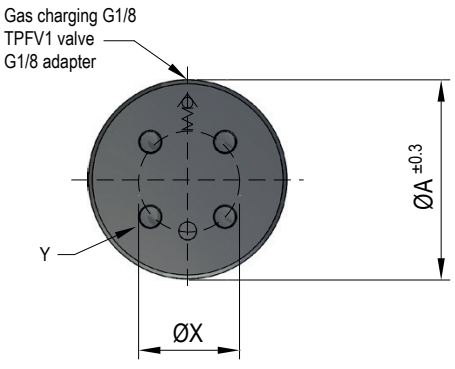
All TPNS.1 gas springs are characterised by the fact that they reduce the impact force at the beginning of their working stroke. This series gradually increases force in such a way that in the first few millimetres of working stroke, the force is practically null.

The TPNS series is manufactured in ISO-norm dimensions and fixtures. They admit operation both in the autonomous mode and connected to a control panel.

**Force curve**




| | |
|---|---|
| Pressure medium | Gas Nitrógeno ($N_2$) |
| Max. charging pressure | 150 Bar |
| Min. charging pressure | 50 Bar |
| Operating temperature | 0°C - 80°C |
| Force increase by temperature | 0,33 %/°C |
| Max. stem speed | 1 m/s |

PED 2014/68/UE

ISO STANDARD DIMENSIONS

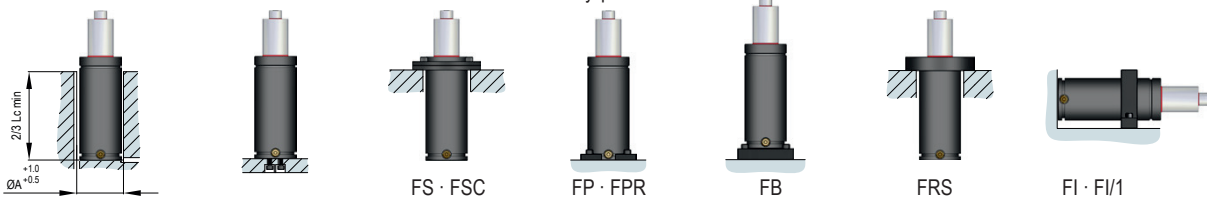
**Advantages**

- ✓ Noise reduction
- ✓ Vibration reduction
- ✓ Progressive increase of force
- ✓ Interchangeability with ISO-standard gas springs
- ✓ Possibility of interconnection to a control panel
- ✓ Decrease in maintenance costs
- ✓ More efficient working environment

| Code | Smax mm | La mm | Lc mm | Fi daN | Fa daN | Fc daN | Si mm | Ø A mm | Ø B mm | Ø C mm | Ø X mm | Y | P Bar | spm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TPNS 750x25.1** | 25 | 145 | 120 | Initial 270 | 750 ±5% (20°C) | ≈ 1000 | 6 | 50 | 30 | 14 | 20 | 2 x M8 | 105 (20°C) | 65 |
| **TPNS 750x38.1** | 38 | 171 | 133 | | | | | | | | | | | 52 |
| **TPNS 750x50.1** | 50 | 195 | 145 | | | | | | | | | | | 43 |
| **TPNS 750x63.1** | 63 | 222 | 159 | | | | | | | | | | | 37 |
| **TPNS 750x80.1** | 80 | 255 | 175 | | | | | | | | | | | 31 |
| **TPNS 750x100.1** | 100 | 295 | 195 | | | | | | | | | | | 26 |
| **TPNS 750x125.1** | 125 | 345 | 220 | | | | | | | | | | | 22 |
| **TPNS 750x160.1** | 160 | 415 | 255 | Final 430 | | | | | | | | | | 18 |
| **TPNS 750x200.1** | 200 | 495 | 295 | | | | | | | | | | | 14 |
| **TPNS 750x250.1** | 250 | 595 | 345 | | | | | | | | | | | 12 |
| **TPNS 750x300.1** | 300 | 695 | 395 | | | | | | | | | | | 10 |
| **TPNS 1500x25.1** | 25 | 160 | 135 | Initial 450 | 1500 ±5% (20°C) | ≈ 2000 | 5 | 75 | 45 | 18 | 40 | 4 x M8 | 95 (20°C) | 65 |
| **TPNS 1500x38.1** | 38 | 186 | 148 | | | | | | | | | | | 52 |
| **TPNS 1500x50.1** | 50 | 210 | 160 | | | | | | | | | | | 43 |
| **TPNS 1500x63.1** | 63 | 237 | 174 | | | | | | | | | | | 37 |
| **TPNS 1500x80.1** | 80 | 270 | 190 | | | | | | | | | | | 31 |
| **TPNS 1500x100.1** | 100 | 310 | 210 | | | | | | | | | | | 26 |
| **TPNS 1500x125.1** | 125 | 360 | 235 | | | | | | | | | | | 22 |
| **TPNS 1500x160.1** | 160 | 430 | 270 | Final 700 | | | | | | | | | | 18 |
| **TPNS 1500x200.1** | 200 | 510 | 310 | | | | | | | | | | | 14 |
| **TPNS 1500x250.1** | 250 | 610 | 360 | | | | | | | | | | | 12 |
| **TPNS 1500x300.1** | 300 | 710 | 410 | | | | | | | | | | | 10 |
| **TPNS 3000x25.1** | 25 | 170 | 145 | Initial 750 | 3000 ±5% (20°C) | ≈ 4000 | 5 | 95 | 60 | 22 | 60 | 4 x M8 | 105 (20°C) | 55 |
| **TPNS 3000x38.1** | 38 | 196 | 158 | | | | | | | | | | | 44 |
| **TPNS 3000x50.1** | 50 | 220 | 170 | | | | | | | | | | | 37 |
| **TPNS 3000x63.1** | 63 | 247 | 184 | | | | | | | | | | | 31 |
| **TPNS 3000x80.1** | 80 | 280 | 200 | | | | | | | | | | | 26 |
| **TPNS 3000x100.1** | 100 | 320 | 220 | | | | | | | | | | | 22 |
| **TPNS 3000x125.1** | 125 | 370 | 245 | | | | | | | | | | | 18 |
| **TPNS 3000x160.1** | 160 | 440 | 280 | | | | | | | | | | | 15 |
| **TPNS 3000x200.1** | 200 | 520 | 320 | Final 1200 | | | | | | | | | | 12 |
| **TPNS 3000x250.1** | 250 | 620 | 370 | | | | | | | | | | | 10 |
| **TPNS 3000x300.1** | 300 | 720 | 420 | | | | | | | | | | | 8 |
| **TPNS 5000x25.1** | 25 | 190 | 165 | Initial 1200 | 5000 ±5% (20°C) | ≈ 7000 | 5 | 120 | 75 | 32 | 80 | 4 x M10 | 110 (20°C) | 55 |
| **TPNS 5000x38.1** | 38 | 216 | 178 | | | | | | | | | | | 44 |
| **TPNS 5000x50.1** | 50 | 240 | 190 | | | | | | | | | | | 37 |
| **TPNS 5000x63.1** | 63 | 267 | 204 | | | | | | | | | | | 31 |
| **TPNS 5000x80.1** | 80 | 300 | 220 | | | | | | | | | | | 26 |
| **TPNS 5000x100.1** | 100 | 340 | 240 | | | | | | | | | | | 22 |
| **TPNS 5000x125.1** | 125 | 390 | 265 | | | | | | | | | | | 18 |
| **TPNS 5000x160.1** | 160 | 460 | 300 | | | | | | | | | | | 15 |
| **TPNS 5000x200.1** | 200 | 540 | 340 | Final 2000 | | | | | | | | | | 12 |
| **TPNS 5000x250.1** | 250 | 640 | 390 | | | | | | | | | | | 10 |
| **TPNS 5000x300.1** | 300 | 740 | 440 | | | | | | | | | | | 8 |

*(Other models under order)*

Assembly possibilities

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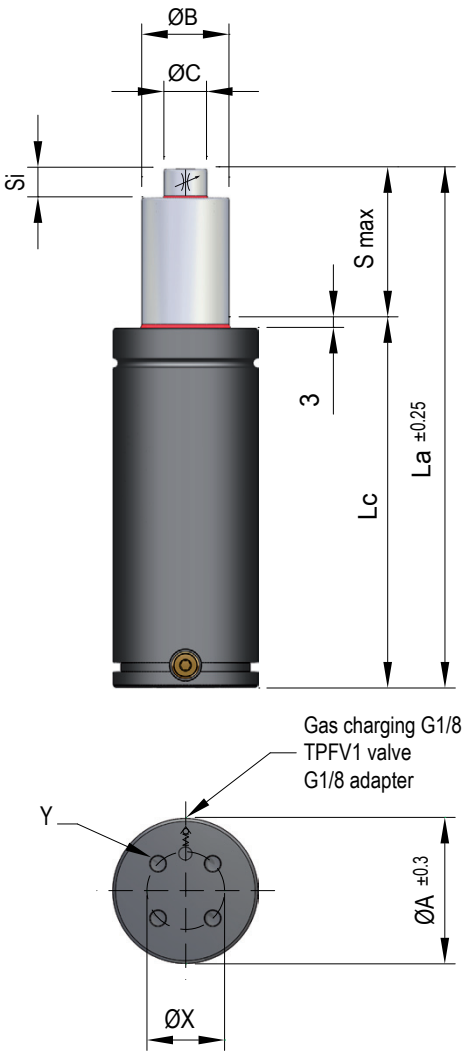
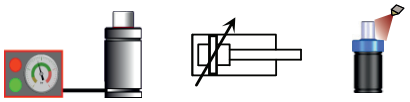
TPNSR gas springs are characterised by two functions:

- ► Reduction of initial working stroke force
- ► Reduction of stem speed during the expansion in the final stroke phase (Si)

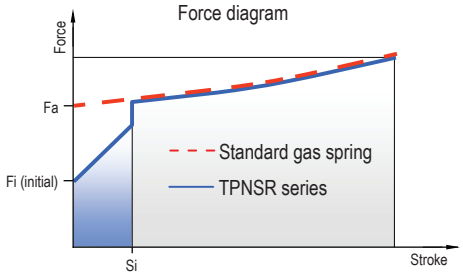


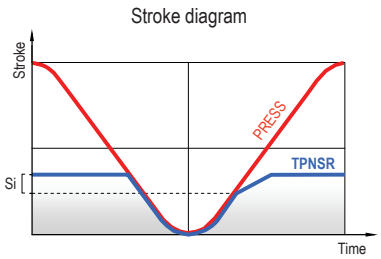

| | |
|---|---|
| Pressure medium | Gas Nitrógeno ($N_2$) |
| Max. charging pressure | 150 Bar |
| Min. charging pressure | 50 Bar |
| Operating temperature | 0°C - 80°C |
| Force increase by temperature | 0,33 %/°C |
| Max. stem speed | 1 m/s |

PED 2014/68/UE — ISO STANDARD DIMENSIONS



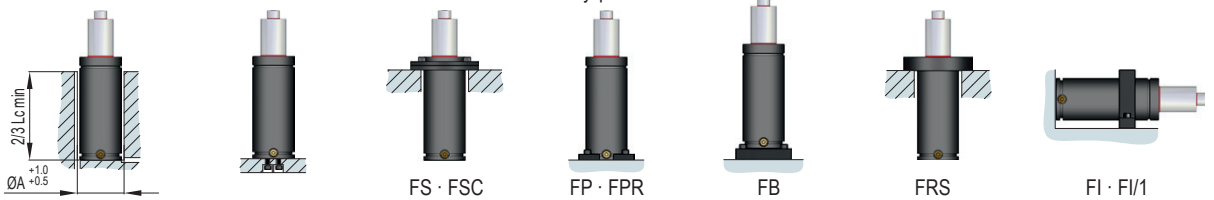
**Operation graph**




| Code | Smax mm | La mm | Lc mm | Fi daN | Fa daN | Fc daN | Si mm | Ø A mm | Ø B mm | Ø C mm | Ø X mm | Y | P Bar | spm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TPNSR 1500x125** | 125 | 360 | 235 | 750 | 1500 ±5% (20°C) | ≈ 2200 | 15 | 75 | 45 | 22 | 40 | 4 x M8 | 95 (20°C) | 22 |
| **TPNSR 1500x160** | 160 | 430 | 270 | | | | | | | | | | | 18 |
| **TPNSR 1500x200** | 200 | 510 | 310 | | | | | | | | | | | 14 |
| **TPNSR 3000x125** | 125 | 370 | 245 | 1200 | 3000 ±5% (20°C) | ≈ 4500 | 24 | 95 | 60 | 32 | 60 | 4 x M8 | 105 (20°C) | 18 |
| **TPNSR 3000x160** | 160 | 440 | 280 | | | | | | | | | | | 15 |
| **TPNSR 3000x200** | 200 | 520 | 320 | | | | | | | | | | | 12 |

Assembly possibilities

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