

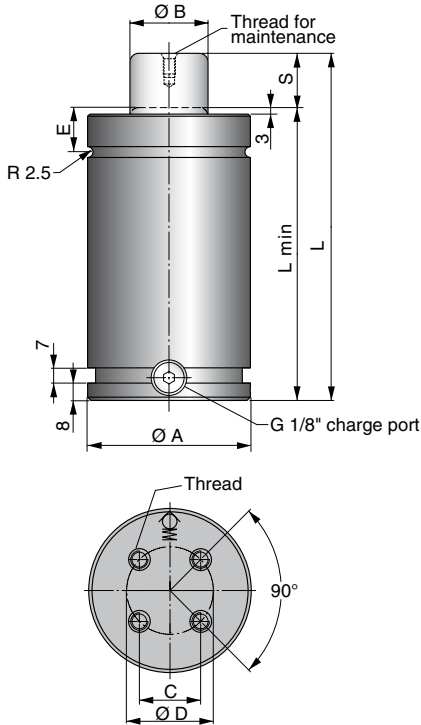
KALLER®



Low Contact Force - LCF

Low Contact Force - LCF

The **LCF Series** is the future generation of nitrogen gas springs. This innovative serie is engineered to address the major problems facing metal stampers today: excessive shock load, high noise levels, and extreme pad bounce. All factors that lead to high press maintenance costs and noise pollution.



- 100% interchangeable with standard height (ISO) gas springs
- Charged and rebuilt like standard gas spring
- Drop-in, flange mount, or base plate mounting
- Can be linked together in a Hose System
- Can be incorporated into press cushions

The **LCF Series** reduces shock load by as much as 50% compared to traditional gas springs. It supplies a gradual force build-up and smooth acceleration so there's less impact on gear and bearings and less wear on drive components.

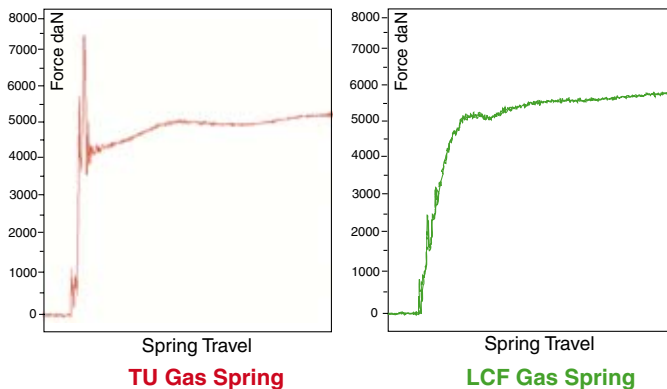
The payoff is reduced press maintenance.

The **LCF Series** lowers noise levels significantly, with a 20% or higher reduction in sound pressure level compared to standard gas springs. Its lesser impact force results in these lower noise levels and makes these springs a cost-effective alternative to building noise enclosures. **The payoff is a quieter, safer and healthier working environment.**

The **LCF Series** decreases pad bounce, allowing improved part transfer efficiency, increased production rates and reduced scrap. A gradual force increase and return results in smoother pad operation. **The payoff is higher production rates.**

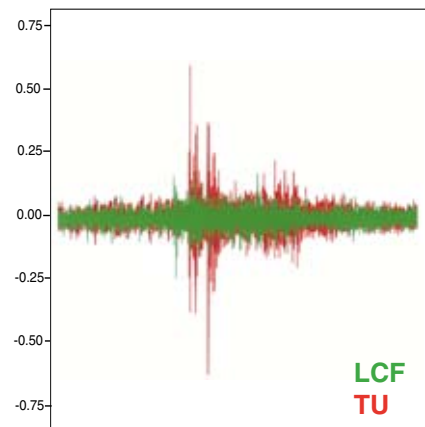
And because LCF gas springs mount directly to the die and are independent of the press, all benefits travel with the tool.

Measured Dynamic Piston Rod Force

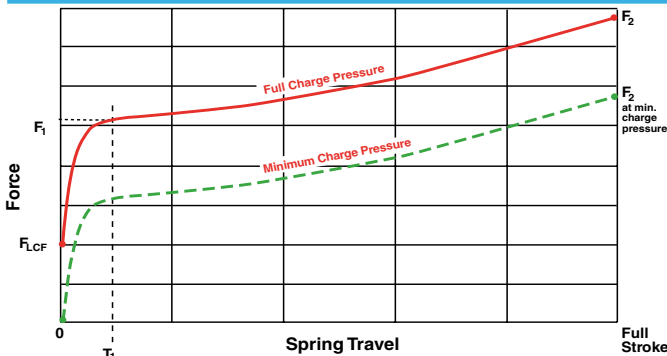


Noise Reduction

The **LCF Series** offers decreased noise levels because of its reduced impact force.



Force vs Stroke for LCF Springs



LCF Application Guidelines

- 1 F_1 is the initial force used to calculate the number of gas springs required for the application.
- 2 The LCF gas spring provides the same F_1 and force increase as an ISO standard gas spring.
- 3 For the selected charge pressure, the total F_{LCF} value should exceed the pad weight by a minimum of 15% to ensure that the pad will be supported at the correct height.

Low Contact Force - LCF Specifications

| Order No. | Force in Newtons at 150 bar | | | Minimum Charge Pressure (bar) | T, Stroke Length For Force Rise | S Max. Stroke | L Min. | L ±0.25 | Ø A | Ø B | C | Ø D | E | Thread |
|--------------|-----------------------------|----------------|----------------|-------------------------------|---------------------------------|---------------|--------|---------|------|-----|----|-----|------|-------------------------|
| | F _{LCF} | F ₁ | F ₂ | | | | | | | | | | | |
| LCF 750-013 | 4 700 | 7 400 | 12 000 | 70 | 3.1 mm | 12.7 | 107.7 | 120.4 | 50.2 | 25 | 20 | -- | 17.5 | M8 (2x) Depth 13 mm |
| LCF 750-025 | | | 12 000 | | | 25 | 120 | 145 | | | | | | |
| LCF 750-038 | | | 12 000 | | | 38.1 | 133.1 | 171.2 | | | | | | |
| LCF 750-050 | | | 12 000 | | | 50 | 145 | 195 | | | | | | |
| LCF 750-064 | | | 12 000 | | | 63.5 | 158.5 | 222 | | | | | | |
| LCF 750-080 | | | 12 000 | | | 80 | 175 | 255 | | | | | | |
| LCF 750-100 | | | 12 000 | | | 100 | 195 | 295 | | | | | | |
| LCF 750-125 | | | 12 100 | | | 125 | 220 | 345 | | | | | | |
| LCF 750-160 | | | 12 100 | | | 160 | 255 | 415 | | | | | | |
| LCF 750-200 | | | 12 100 | | | 200 | 295 | 495 | | | | | | |
| LCF 750-250 | | | 12 100 | | | 250 | 345 | 595 | | | | | | |
| LCF 750-300 | | | 12 100 | | | 300 | 395 | 695 | | | | | | |
| LCF 1500-025 | | | 7 000 | | | 15 000 | 23 000 | 105 | | | | | | |
| LCF 1500-038 | 23 000 | 38.1 | | 148.1 | 186.2 | | | | | | | | | |
| LCF 1500-050 | 23 000 | 50 | | 160 | 210 | | | | | | | | | |
| LCF 1500-064 | 23 000 | 63.5 | | 173.5 | 237 | | | | | | | | | |
| LCF 1500-080 | 23 000 | 80 | | 190 | 270 | | | | | | | | | |
| LCF 1500-100 | 23 000 | 100 | | 210 | 310 | | | | | | | | | |
| LCF 1500-125 | 23 000 | 125.0 | | 235.0 | 360.0 | | | | | | | | | |
| LCF 1500-160 | 23 000 | 160.0 | | 270.0 | 430.0 | | | | | | | | | |
| LCF 1500-200 | 23 000 | 200.0 | | 310.0 | 510.0 | | | | | | | | | |
| LCF 1500-250 | 23 000 | 250.0 | | 360.0 | 610.0 | | | | | | | | | |
| LCF 1500-300 | 23 000 | 300.0 | | 410.0 | 710.0 | | | | | | | | | |
| LCF 3000-025 | 16 000 | 30 000 | 42 000 | 68 | 3.8 mm | 25.0 | 145.0 | 170.0 | 95 | 50 | 42 | 60 | 24 | M8 (4x) Depth 13 mm |
| LCF 3000-038 | | | 43 000 | | | 38.1 | 158.1 | 196.2 | | | | | | |
| LCF 3000-050 | | | 44 000 | | | 50.0 | 170.0 | 220.0 | | | | | | |
| LCF 3000-064 | | | 45 000 | | | 63.5 | 183.5 | 247.0 | | | | | | |
| LCF 3000-080 | | | 46 000 | | | 80.0 | 200.0 | 280.0 | | | | | | |
| LCF 3000-100 | | | 47 000 | | | 100.0 | 220.0 | 320.0 | | | | | | |
| LCF 3000-125 | | | 47 000 | | | 125.0 | 245.0 | 370.0 | | | | | | |
| LCF 3000-160 | | | 47 000 | | | 160.0 | 280.0 | 440.0 | | | | | | |
| LCF 3000-200 | | | 48 000 | | | 200.0 | 320.0 | 520.0 | | | | | | |
| LCF 3000-250 | | | 48 000 | | | 250.0 | 370.0 | 620.0 | | | | | | |
| LCF 3000-300 | | | 48 000 | | | 300.0 | 420.0 | 720.0 | | | | | | |
| LCF 5000-025 | 25 000 | 50 000 | 71 000 | 75 | 7.7 mm | 25.0 | 165.0 | 190.0 | 120 | 65 | 56 | 80 | 25.5 | M10 (4x) Depth 13 mm |
| LCF 5000-038 | | | 75 000 | | | 38.1 | 178.1 | 216.2 | | | | | | |
| LCF 5000-050 | | | 77 000 | | | 50.0 | 190.0 | 240.0 | | | | | | |
| LCF 5000-063 | | | 80 000 | | | 63.5 | 203.5 | 267.0 | | | | | | |
| LCF 5000-080 | | | 81 000 | | | 80.0 | 220.0 | 300.0 | | | | | | |
| LCF 5000-100 | | | 82 000 | | | 100.0 | 240.0 | 340.0 | | | | | | |
| LCF 5000-125 | | | 82 000 | | | 125.0 | 265.0 | 390.0 | | | | | | |
| LCF 5000-160 | | | 83 000 | | | 160.0 | 300.0 | 460.0 | | | | | | |
| LCF 5000-200 | | | 84 000 | | | 200.0 | 340.0 | 540.0 | | | | | | |
| LCF 5000-250 | | | 84 000 | | | 250.0 | 390.0 | 640.0 | | | | | | |
| LCF 5000-300 | | | 84 000 | | | 300.0 | 440.0 | 740.0 | | | | | | |
| LCF 7500-025 | 30 000 | 75 000 | 105 000 | 89 | 10.4 mm | 25.0 | 180.0 | 205.0 | 150 | 80 | 70 | 100 | 27.5 | M10 (4x) Depth 13 mm |
| LCF 7500-038 | | | 110 000 | | | 38.1 | 193.1 | 231.2 | | | | | | |
| LCF 7500-050 | | | 113 000 | | | 50.0 | 205.0 | 255.0 | | | | | | |
| LCF 7500-064 | | | 115 000 | | | 63.5 | 218.5 | 282.0 | | | | | | |
| LCF 7500-080 | | | 117 000 | | | 80.0 | 325.0 | 315.0 | | | | | | |
| LCF 7500-100 | | | 119 000 | | | 100.0 | 255.0 | 355.0 | | | | | | |
| LCF 7500-125 | | | 121 000 | | | 125.0 | 280.0 | 405.0 | | | | | | |
| LCF 7500-160 | | | 122 000 | | | 160.0 | 315.0 | 475.0 | | | | | | |
| LCF 7500-200 | | | 123 000 | | | 200.0 | 355.0 | 555.0 | | | | | | |
| LCF 7500-250 | | | 124 000 | | | 250.0 | 405.0 | 655.0 | | | | | | |
| LCF 7500-300 | | | 124 000 | | | 300.0 | 455.0 | 755.0 | | | | | | |

We reserve the right to add, delete or modify components without notification.

All dimensions are stated in mm.
All dimensions are nominal unless tolerance is stated.

KALLER®

The Safer Choice



Gas Springs

Kaller developed the first nitrogen gas spring for press tools and today offers a comprehensive selection of high quality gas springs for use in different tool & die applications.



Controllable Gas Springs-KF2

Kaller controllable springs are a family of gas springs, for use in press tools, that can be locked in their bottom position and where the return stroke of the spring can be controlled.



Flange Stripper Unit

Kaller Flange Stripper Unit is used in flanging dies for stripping/lifting a flanged part after forming. It provides 200 daN of stripping force, can be top or bottom mounted and is self guiding.



Flex Cam™

The Flex Cam is used for piercing, cutting, forming and flanging operations. The system allows for a flexible distribution of forces with optimal direction and velocity. By using a Flex Cam, fewer tools are required in production.



Roller Cam

Kaller Roller Cam is used for piercing, trimming, flanging and restriking. The Roller Cam can be mounted in both vertical and horizontal angles.



Counter Balance

Kaller Counter Balance gas springs can be used to lift, lower, assist, balance, and hold in a multitude of applications.

KALLER®

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GAS SPRINGS

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