



TRUSTED SOLUTIONS AND INNOVATION

# MaxForce™ Dual Springs



# MaxForce™ Dual Springs

## Service We Deliver and Quality You Can Depend On

**DANLY IEM** is a leading manufacturer of die sets and die component products supplied globally to the parts forming industry. Backed by years of tool and die experience, quality and innovation are some of the reasons why our name is respected throughout the world. We have taken the lead role in creating and bringing new products to customers and helping them find solutions that improve their operations. Based on the capabilities **DANLY IEM** offers, we can help you to meet the demands of quick deliveries, technical support, quality products and competitive prices. **DANLY IEM** and its' broad distribution channels and direct sales personnel will assist you in any way to make your product a better and more profitable one.

Whether you purchase on-line or in person, you will receive the same reliable service **DANLY IEM** is known for. We understand the demanding schedules of die builders and production personnel and have developed efficient manufacturing processes to shorten product lead times as well as put inventory on our shelves so you can have it in your facility when you need it. Put the **DANLY IEM** network to work for you. We've got the service you've been looking for.

Included in our full line offering are both inch and metric size die sets and die components that are designed to numerous die standards including ISO, NAAMS, JIS and many large automotive and appliance manufacturers' standards. The complete product offering includes:

- Ball bearing and friction style die sets including custom and catalog sets
- Machined plate
- Guide posts & bushings
- ISO and JIS Die springs
- In-die tapping units for both mechanical and hydraulic presses
- Formathane® Urethane springs, strippers, sheets, bars, rods and die cover film
- Diemakers' supplies such as pry bars, dowel pins, hoist rings, clamps and fasteners
- Standard and self-lubricating wear product including wear plate, wear strips, gibs, keeper plates and guide blocks
- Cam units, including Milfab®, Mini™, Aerial and Die Mount styles
- Accubend™ Rotary Benders
- Standard and Ball lock punches and retainers
- Coil Safe
- Air presses
- Pad retainers
- Nitrogen gas springs



Our facility has been Registered by Underwriters Laboratories, Inc. to the International Organization for Standardization ISO 9001 Series Standards for Quality.  
\*Registered by UL to ISO 9001.\*

# MaxForce™ Dual Springs

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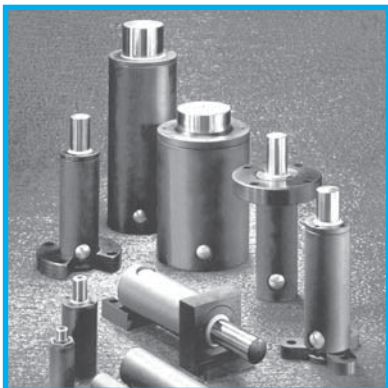
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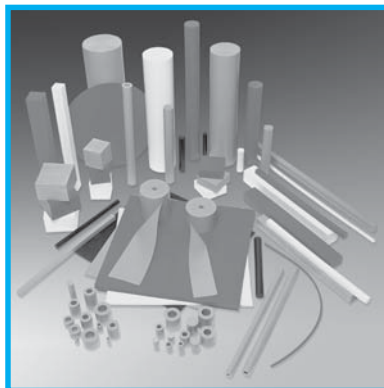
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## TRY OUR OTHER FORCE PRODUCTS:

**NITROGEN  
GAS SPRINGS**



**FORMATHANE®  
URETHANE FILM**



**DIEMAX XL™  
DIE SPRINGS**



# MaxForce™ Dual Springs



## Product Features

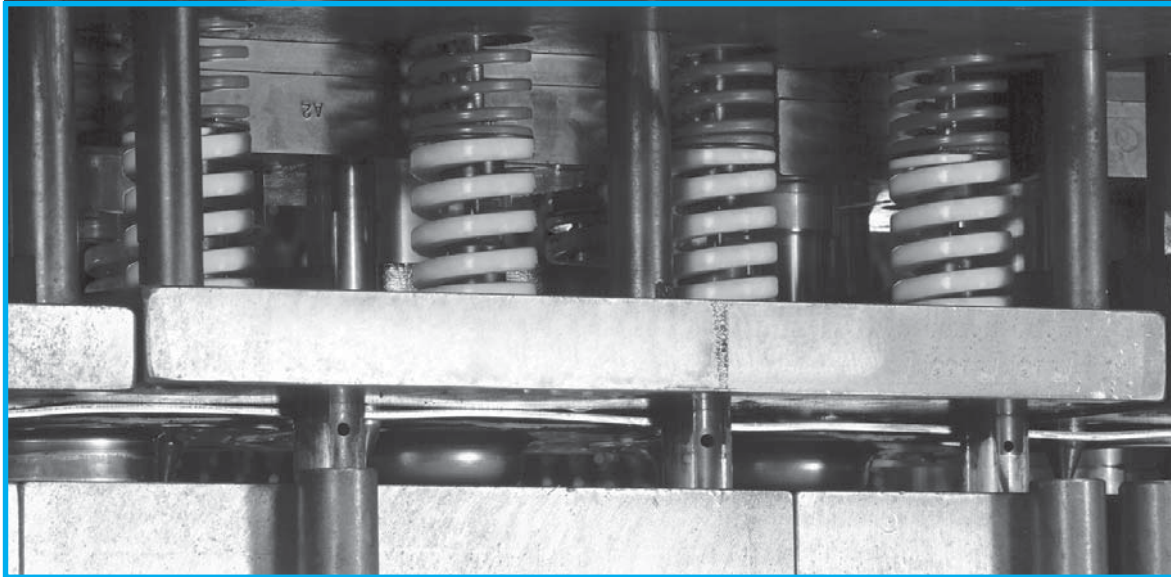
*New **MaxForce™** springs provide solutions to metal stamping problems that were previously unavailable.*

***MaxForce™** combines a light load spring with a heavier load spring to get the performance characteristics normally associated with nitrogen gas springs, **ONLY BETTER.***

- Designed with the needs of stampers in mind, **MaxForce™** combines the force curves of two DieMax XL™ springs to generate loads and travels that rival nitrogen gas springs.
- Providing exceptional value, the patent pending **MaxForce™** generates more force per dollar than their gas spring counterpart.
- Your one-stop shop for force, the complete line of load bearing product includes DieMax XL™ die springs, Formathane® urethane and now the **MaxForce™** Dual Mechanical Spring.

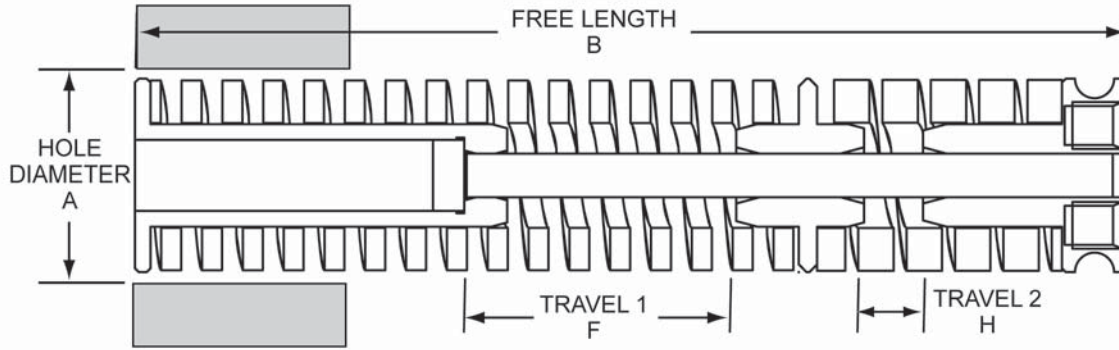
# MaxForce™ Dual Springs

Service We Deliver and Quality You Can Depend On

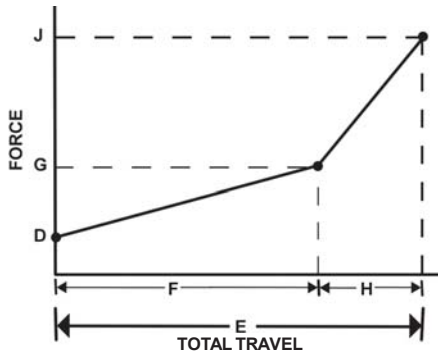


- ◆ **MaxForce™** generates loads and travel performance that rival nitrogen gas, while performing better than nitrogen gas at high speeds and high temperatures.
- ◆ Harsh environments create problems for nitrogen gas springs. **MaxForce™** performs exceptionally well in these demanding environments, such as the heavy lubrication that is used in deep drawing operations.
- ◆ Considered an economical solution to demanding, high force requirement applications, **MaxForce™** springs offer a better alternative.
- ◆ Maintenance costs can be reduced. It is standard practice to replace all nitrogen gas springs in a stamping die when one leaks. With **MaxForce™** springs, replace only the problem spring and substantially reduce spring costs. Also, it is easier to detect a broken **MaxForce™** spring than a broken nitrogen gas spring.
- ◆ **MaxForce™** spring technology can also be utilized for custom applications.

# Spring Specifications



**TOTAL TRAVEL = F + H**



- Graphic representation of travel and force when applied to the MaxForce™ springs.
- Letters correspond to those on the chart beginning below.

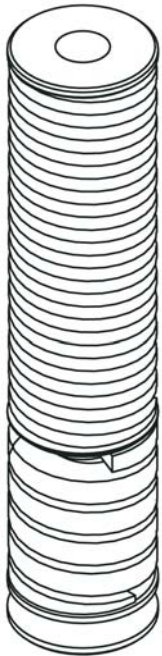
| Hole Diameter A (in) | Free Length B (in) | Part Number | Preload D (lbf) | Total Travel (in) | Travel 1 F (in) | Force G (lbf) | Travel 2 H (in) | End Force J (lbf) |
|----------------------|--------------------|-------------|-----------------|-------------------|-----------------|---------------|-----------------|-------------------|
| 1.00                 | 2.25               | 270879      | 119             | 0.47              | 0.22            | 256           | 0.24            | 645               |
|                      | 2.50               | 270880      | 95              | 0.53              | 0.28            | 222           | 0.26            | 645               |
|                      | 2.75               | 270882      | 79              | 0.64              | 0.37            | 217           | 0.26            | 645               |
|                      | 3.00               | 270881      | 67              | 0.75              | 0.48            | 213           | 0.27            | 645               |
|                      | 3.25               | 270883      | 59              | 0.87              | 0.59            | 216           | 0.27            | 645               |
|                      | 3.50               | 270885      | 59              | 0.87              | 0.59            | 214           | 0.28            | 631               |
|                      | 3.75               | 270884      | 47              | 1.05              | 0.77            | 204           | 0.28            | 645               |
|                      | 4.00               | 270886      | 46              | 1.05              | 0.76            | 201           | 0.29            | 631               |
|                      | 4.25               | 270888      | 39              | 1.27              | 0.99            | 205           | 0.28            | 645               |
|                      | 4.50               | 270890      | 39              | 1.27              | 0.98            | 203           | 0.29            | 631               |
|                      | 4.75               | 270887      | 33              | 1.45              | 1.17            | 197           | 0.28            | 645               |
|                      | 5.00               | 270889      | 33              | 1.45              | 1.15            | 196           | 0.30            | 631               |
|                      | 5.25               | 270892      | 29              | 1.63              | 1.35            | 192           | 0.29            | 645               |
|                      | 5.50               | 270894      | 29              | 1.63              | 1.33            | 190           | 0.30            | 631               |
|                      | 5.75               | 270895      | 25              | 1.85              | 1.57            | 192           | 0.29            | 645               |
|                      | 6.00               | 270897      | 25              | 1.85              | 1.55            | 191           | 0.30            | 631               |
|                      | 6.25               | 270891      | 23              | 2.04              | 1.75            | 191           | 0.29            | 645               |
|                      | 6.50               | 270893      | 23              | 2.07              | 1.77            | 193           | 0.30            | 631               |
|                      | 6.75               | 270896      | 21              | 2.22              | 1.93            | 189           | 0.29            | 645               |
|                      | 7.00               | 270898      | 21              | 2.26              | 1.95            | 191           | 0.30            | 631               |
| 7.25                 | 270899             | 19          | 2.48            | 2.19              | 194             | 0.29          | 645             |                   |
| 7.50                 | 270900             | 19          | 2.48            | 2.17              | 193             | 0.30          | 631             |                   |
| 7.75                 | 270901             | 19          | 2.56            | 2.19              | 194             | 0.36          | 600             |                   |
| 8.00                 | 270902             | 19          | 2.60            | 2.17              | 193             | 0.42          | 578             |                   |
| 8.25                 | 270903             | 17          | 2.84            | 2.55              | 193             | 0.29          | 645             |                   |

# Spring Specifications

| Hole Diameter A (in) | Free Length B (in) | Part Number | Preload D (lbf) | Total Travel (in) | Travel 1 F (in) | Force G (lbf) | Travel 2 H (in) | End Force J (lbf) |
|----------------------|--------------------|-------------|-----------------|-------------------|-----------------|---------------|-----------------|-------------------|
| 1.50                 | 4.25               | 270931      | 190             | 0.92              | 0.48            | 477           | 0.44            | 1595              |
|                      | 4.75               | 270932      | 150             | 1.13              | 0.68            | 461           | 0.45            | 1595              |
|                      | 5.25               | 270934      | 126             | 1.32              | 0.86            | 448           | 0.46            | 1595              |
|                      | 5.75               | 270933      | 108             | 1.54              | 1.07            | 450           | 0.47            | 1595              |
|                      | 6.25               | 270936      | 94              | 1.72              | 1.25            | 436           | 0.47            | 1595              |
|                      | 6.75               | 270935      | 84              | 1.94              | 1.47            | 438           | 0.47            | 1595              |
|                      | 7.25               | 270937      | 76              | 2.13              | 1.65            | 432           | 0.48            | 1595              |
|                      | 7.75               | 270939      | 69              | 2.31              | 1.83            | 424           | 0.48            | 1595              |
|                      | 8.25               | 270938      | 63              | 2.53              | 2.05            | 424           | 0.48            | 1595              |
|                      | 8.75               | 270940      | 62              | 2.65              | 2.05            | 422           | 0.60            | 1506              |
|                      | 9.25               | 270941      | 54              | 2.93              | 2.45            | 421           | 0.48            | 1595              |
|                      | 9.75               | 270943      | 53              | 3.05              | 2.45            | 420           | 0.60            | 1506              |
|                      | 10.25              | 270942      | 46              | 3.34              | 2.85            | 414           | 0.49            | 1595              |
|                      | 10.75              | 270944      | 46              | 3.45              | 2.85            | 413           | 0.61            | 1506              |
|                      | 11.25              | 270945      | 45              | 3.57              | 2.84            | 412           | 0.73            | 1448              |
| 11.75                | 270946             | 45          | 3.73            | 2.88              | 417             | 0.85          | 1400            |                   |
| 12.25                | 270947             | 37          | 4.10            | 3.61              | 409             | 0.49          | 1595            |                   |
| 2.00                 | 5.25               | 270948      | 369             | 1.13              | 0.59            | 901           | 0.54            | 2588              |
|                      | 5.75               | 270950      | 307             | 1.36              | 0.81            | 889           | 0.55            | 2588              |
|                      | 6.25               | 270949      | 263             | 1.50              | 0.94            | 829           | 0.56            | 2588              |
|                      | 6.75               | 270951      | 228             | 1.72              | 1.15            | 818           | 0.57            | 2588              |
|                      | 7.25               | 270953      | 203             | 1.90              | 1.33            | 799           | 0.58            | 2588              |
|                      | 7.75               | 270952      | 182             | 2.13              | 1.55            | 800           | 0.58            | 2588              |
|                      | 8.25               | 270954      | 166             | 2.31              | 1.72            | 786           | 0.59            | 2588              |
|                      | 8.75               | 270956      | 152             | 2.53              | 1.94            | 789           | 0.59            | 2588              |
|                      | 9.25               | 270958      | 149             | 2.65              | 1.94            | 786           | 0.70            | 2453              |
|                      | 9.75               | 270955      | 130             | 2.93              | 2.34            | 780           | 0.59            | 2588              |
|                      | 10.25              | 270957      | 128             | 3.05              | 2.34            | 778           | 0.71            | 2453              |
|                      | 10.75              | 270959      | 113             | 3.34              | 2.74            | 765           | 0.60            | 2588              |
|                      | 11.25              | 270960      | 111             | 3.45              | 2.74            | 763           | 0.72            | 2453              |
| 11.75                | 270961             | 136         | 3.49            | 2.90              | 980             | 0.59          | 2588            |                   |
| 12.25                | 270962             | 134         | 3.61            | 2.90              | 978             | 0.71          | 2453            |                   |

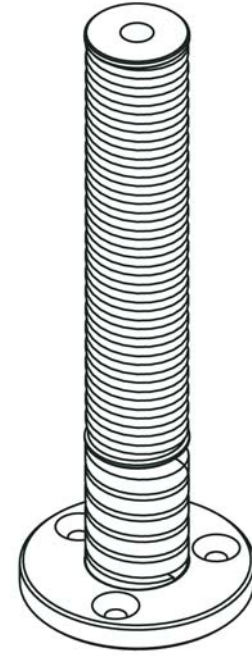
# Mounting Options

| Flange Mount Part Number | Hole Diameter (in) | A (in) | B (in) | C (in) | K (in) | Thread    |
|--------------------------|--------------------|--------|--------|--------|--------|-----------|
| 271791                   | 1.0                | 1.61   | 2.36   | .26    | .5     | M6 x 1    |
| 271793                   | 1.5                | 2.17   | 2.95   | .26    | .79    | M6 x 1    |
| 271794                   | 2.0                | 2.64   | 3.35   | .26    | 1.38   | M8 x 1.25 |



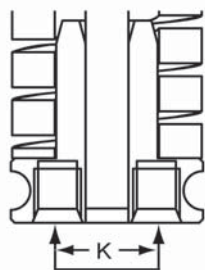
## DROP IN

A spring may be used as a drop-in with no attachments.

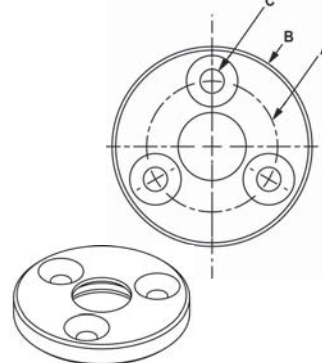


## FLANGE MOUNT OPTION

Rings and collars are available to provide stronger mounting.



**TWO THREADED HOLES FOR MOUNTING**



**COLLAR**

# MaxForce™ Dual Spring Special Requirements Quote Sheet

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**Company Information:**

Company: \_\_\_\_\_

Contact: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

**Sales Requirements:**

Estimated Annual Volume: \_\_\_\_\_ Order Quantity: \_\_\_\_\_

Delivery Date Required: \_\_\_\_\_

**Dual Spring Specifications:**

Hole Diameter (inches): \_\_\_\_\_ Assembly Length (inches): \_\_\_\_\_

Total Travel (inches): \_\_\_\_\_

Assembly Load (lbs. min.): \_\_\_\_\_ (lbs. max.): \_\_\_\_\_

Load: \_\_\_\_\_ lbs. at \_\_\_\_\_ inches from end of travel

**Mounting:**

Standard

Mounting collar, standard option

Special

**Special Mounting Description:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Application Explanation:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Critical Tolerances, Certifications or Inspections Required:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Notes

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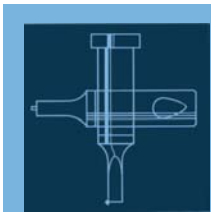
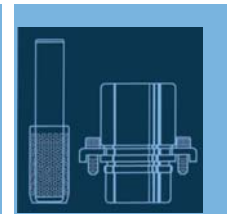
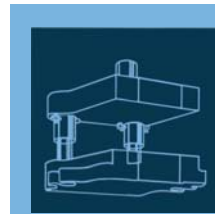
# MaxForce™ Dual Springs

## The Danly IEM Value Proposition

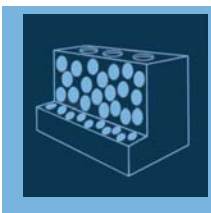
- I. **Danly IEM** is recognized as the leader in manufacturing quality die sets and related products to the global parts forming industry. Our reputation has been built by satisfying customer needs, and we are very strong in the automotive and appliance industries.
- II. **Danly IEM** offers outstanding delivery on a consistent basis. Choosing us as a supplier means that our customers have a competitive advantage in delivering their products to the market.
- III. **Danly IEM** has complex machining capabilities on die sets at several strategically located facilities. Locations throughout the USA means lower shipping costs and allowing **Danly IEM** to machine complex die sets means the customer's machining centers have additional capacity.
- IV. **Danly IEM's** vast breadth of products assures innovative solutions. We strive to address customer problems by utilizing our research and development department as well as other technical professionals.
- V. **Danly IEM** has a technically trained sales force and distributor channels with engineering support. Sales, marketing and engineering professionals are available to support our product lines.

➤ **Competitive Prices**

➤ **Reliability and Performance**



**...A LEADING MANUFACTURER  
AND INNOVATOR OF DIE SETS  
AND DIE COMPONENTS  
SUPPLIED GLOBALLY TO THE  
METAL FORMING INDUSTRY...**



- **High Quality Design & Construction**
- **Outstanding Service & Support**



## MaxForce™ Dual Springs



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