



# Magna-Bulb<sup>®</sup>

Unique Bulbing Fastener with  
Large Blind-Side Surface



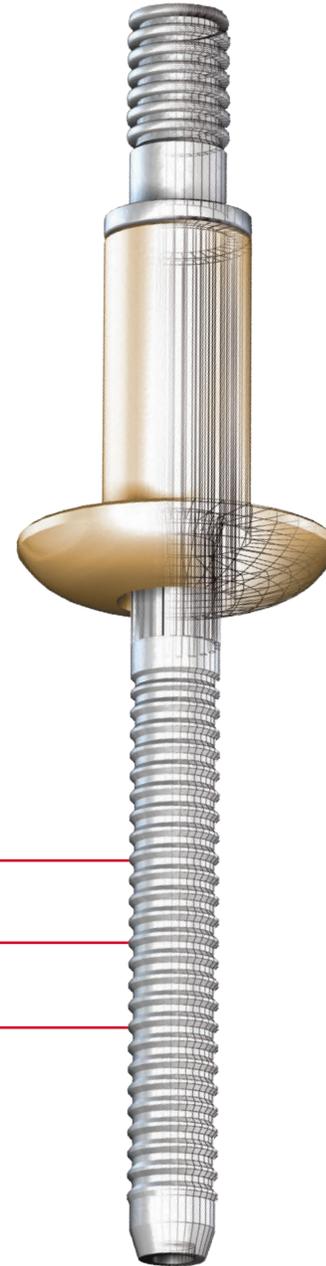
2 Huck® | Magna-Bulb®

# Huck® Magna-Bulb®

## A Unique Bulbing Fastener with High Shear Strength

Huck Magna-Bulb® is a unique, clamp-type fastener offering high shear strength in specific applications. Its bulbing action during installation spreads the load over more surface area, supplying a stronger, longer-lasting connection, while offering superior blind side strength.

This increased bearing area makes Magna-Bulb ideal for pull-out resistance in thin materials, and oversized or misaligned holes. Positive, mechanical pin-retention ensures structural integrity no matter what the application.



**Available Sizes** 3/16", 1/4", 5/16"

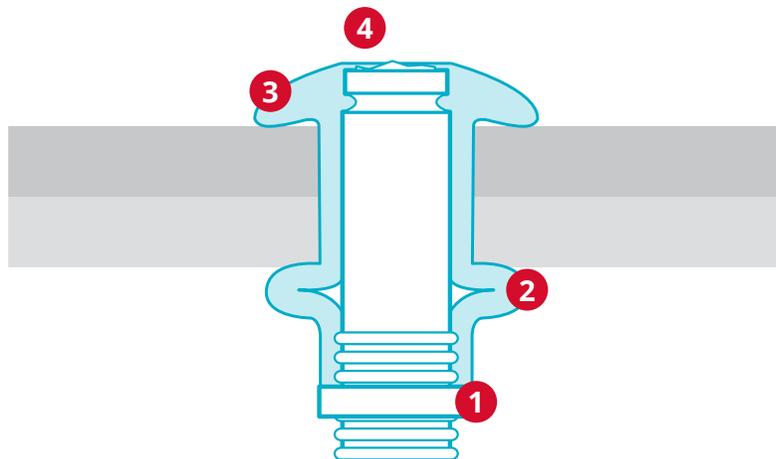
**Materials** Steel

**Headstyles** Protruding, Truss, 100° Oval Flush

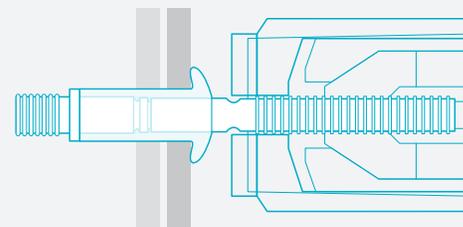


- ✓ Unmatched installation speed
- ✓ Low overall installed cost
- ✓ Vibration resistance
- ✓ Weather-resistant seal
- ✓ Quiet non-torque tools
- ✓ No repetitive stress injuries
- ✓ Eliminates need for secondary operations
- ✓ No special training or skills required for operators

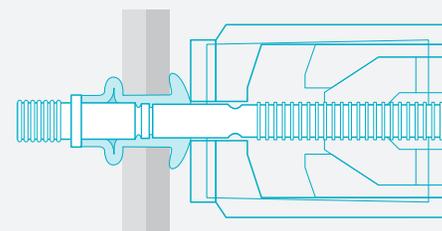
## Secure, Fast Installation



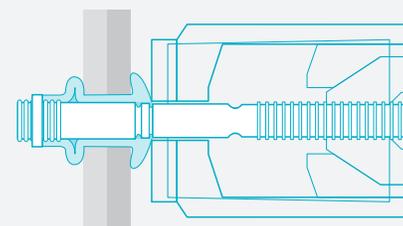
- 1 Shear ring design promotes bulb formation and grip adjustment for flush break throughout the grip range
- 2 The wide blind footprint (bulb) gives the fastener a broader bearing surface, spreading the load out for greater strength and high pull out resistance
- 3 Unique solid circle lock ensures maximum strength and resistance to vibration
- 4 Breaking flush throughout the entire grip range, the Magna-Bulb fastener eliminates costly cosmetic finish work. Simple visual inspection ensures that the fastener is installed correctly.



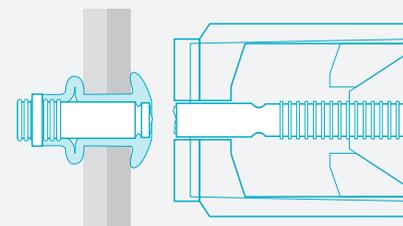
- 1 Insert the fastener into the hole and slip the installation tool over the pintail.



- 2 Press the trigger to initiate pulling action. As the tool pulls on the pintail, the pin (mandrel) expands the sleeve and begins drawing the work pieces together.

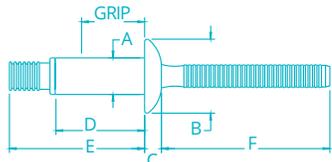


- 3 Press the trigger to initiate pulling action. As the tool pulls on the pintail, the pin (mandrel) expands the sleeve and begins drawing the work pieces together.

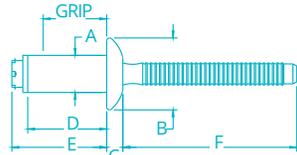


- 4 A solid circle lock between the pin and sleeve is formed just prior to the pin breaking flush with the sleeve head, completing the installation.

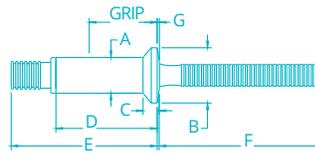
## Data and Dimensions



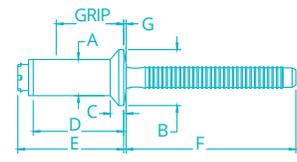
Standard Protruding Head



Clearance Protruding Head



Standard Oval Head



Clearance Oval Head

### Magna-Bulb Dimensions

| DIA.                   | STANDARD   | CLEARANCE   | GRIP RANGE (IN)              | GRIP RANGE (MM) | HOLE SIZE | A NOM     | B MAX | C MAX | D MAX | STANDARD E MAX | CLEARANCE E MAX | F MIN               |
|------------------------|------------|-------------|------------------------------|-----------------|-----------|-----------|-------|-------|-------|----------------|-----------------|---------------------|
| <b>Protruding Head</b> |            |             |                              |                 |           |           |       |       |       |                |                 |                     |
| 3/16"                  | MBP-R6-M2  | MBCP-R6-M2  | .075-.110                    | 1.9-2.8         | .191-.201 | .187      | .395  | .101  | .325  | .588           | .403            | 1.084 / 1.079(MBCP) |
|                        | MBP-R6-M3  | MBCP-R6-M3  | .087-.150                    | 2.2-3.8         | .191-.201 | .187      | .395  | .101  | .365  | .668           | .481            | 1.044 / 1.039(MBCP) |
|                        | MBP-R6-M4  | MBCP-R6-M4  | .126-.189                    | 3.2-4.8         | .191-.201 | .187      | .395  | .101  | .404  | .691           | .505            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M5  | MBCP-R6-M5  | .165-.228                    | 4.2-5.8         | .191-.201 | .187      | .395  | .101  | .443  | .730           | .544            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M6  | MBCP-R6-M6  | .205-.268                    | 5.2-6.8         | .191-.201 | .187      | .395  | .101  | .483  | .770           | .584            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M7  | MBCP-R6-M7  | .244-.307                    | 6.2-7.8         | .191-.201 | .187      | .395  | .101  | .522  | .809           | .623            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M8  | MBCP-R6-M8  | .283-.347                    | 7.2-8.8         | .191-.201 | .187      | .395  | .101  | .562  | .849           | .663            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M9  | MBCP-R6-M9  | .323-.386                    | 8.2-9.8         | .191-.201 | .187      | .395  | .101  | .601  | .888           | .702            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M10 | MBCP-R6-M10 | .362-.425                    | 9.2-10.8        | .191-.201 | .187      | .395  | .101  | .640  | .927           | .741            | 1.060 / 1.055(MBCP) |
|                        | MBP-R6-M11 | -           | .402-.465                    | 10.2-11.8       | .191-.201 | .187      | .395  | .101  | .680  | .967           | -               | 1.060               |
|                        | MBP-R6-M12 | -           | .441-.504                    | 11.2-12.8       | .191-.201 | .187      | .395  | .101  | .719  | 1.006          | -               | 1.060               |
|                        | MBP-R6-M13 | -           | .481-.544                    | 12.2-13.8       | .191-.201 | .187      | .395  | .101  | .759  | 1.046          | -               | 1.060               |
|                        | MBP-R6-M14 | -           | .520-.583                    | 13.2-14.8       | .191-.201 | .187      | .395  | .101  | .798  | 1.085          | -               | 1.060               |
|                        | 8/14"      | MBP-R8-M2   | MBCP-R8-M2                   | .060-.138       | 1.5-3.5   | .261-.272 | .253  | .530  | .125  | .437           | .773            | .547                |
| MBP-R8-M3              |            | MBCP-R8-M3  | .110-.189                    | 2.8-4.8         | .261-.272 | .253      | .530  | .125  | .488  | .860           | .649            | 1.147               |
| MBP-R8-M4              |            | MBCP-R8-M4  | .150-.229                    | 3.8-5.8         | .261-.272 | .253      | .530  | .125  | .528  | .940           | .728            | 1.107               |
| MBP-R8-M5              |            | MBCP-R8-M5  | .189-.268                    | 4.8-6.8         | .261-.272 | .253      | .530  | .125  | .567  | .912           | .701            | 1.174               |
| MBP-R8-M6              |            | MBCP-R8-M6  | .229-.308 / .229-.306 (MBCP) | 5.8-7.8         | .261-.272 | .253      | .530  | .125  | .607  | .947           | .737            | 1.179               |
| MBP-R8-M7              |            | MBCP-R8-M7  | .268-.346                    | 6.8-8.8         | .261-.272 | .253      | .530  | .125  | .646  | .986           | .776            | 1.179               |
| MBP-R8-M8              |            | MBCP-R8-M8  | .308-.387                    | 7.8-9.8         | .261-.272 | .253      | .530  | .125  | .686  | 1.026          | .816            | 1.179               |
| MBP-R8-M9              |            | MBCP-R8-M9  | .346-.425                    | 8.8-10.8        | .261-.272 | .253      | .530  | .125  | .725  | 1.065          | .855            | 1.179               |
| MBP-R8-M10             |            | -           | .387-.466                    | 9.8-11.8        | .261-.272 | .253      | .530  | .125  | .765  | 1.105          | -               | 1.179               |
| MBP-R8-M11             |            | MBCP-R8-M11 | .425-.504                    | 10.8-12.8       | .261-.272 | .253      | .530  | .125  | .804  | 1.144          | .934            | 1.179               |
| MBP-R8-M12             |            | -           | .466-.545                    | 11.8-13.8       | .261-.272 | .253      | .530  | .125  | .844  | 1.184          | -               | 1.179               |
| MBP-R8-M13             |            | MBCP-R8-M13 | .504-.583                    | 12.8-14.8       | .261-.272 | .253      | .530  | .125  | .883  | 1.223          | 1.013           | 1.179               |
| -                      |            | MBCP-R8-M16 | .622-.701                    | 15.8-17.8       | .261-.272 | .253      | .530  | .125  | 1.002 | -              | 1.132           | 1.178               |
| MBP-R8-M18             |            | -           | .701-.780                    | 17.8-19.8       | .261-.272 | .253      | .530  | .125  | 1.079 | 1.419          | -               | 1.179               |
| MBP-R8-M19             |            | MBCP-R8-M19 | .741-.820 / .740-.819 (MBCP) | 18.8-20.8       | .261-.272 | .253      | .530  | .125  | 1.120 | 1.460          | 1.250           | 1.179               |
| -                      |            | MBCP-R8-M25 | .976-1.055                   | 24.8-26.8       | .261-.272 | .253      | .530  | .125  | 1.359 | -              | 1.489           | 1.176               |
| -                      |            | MBCP-R8-M29 | 1.134-1.213                  | 28.8-30.8       | .261-.272 | .253      | .530  | .125  | 1.512 | -              | 1.642           | 1.179               |
| -                      |            | MBCP-R8-M31 | 1.212-1.291                  | 30.8-32.8       | .261-.272 | .253      | .530  | .125  | 1.592 | -              | 1.722           | 1.179               |
| MBP-R8-M32             |            | -           | 1.252-1.331                  | 31.8-33.8       | .261-.272 | .253      | .530  | .125  | 1.632 | 1.972          | -               | 1.179               |

## Magna-Bulb Dimensions

| DIA.                   | STANDARD   | CLEARANCE | GRIP RANGE (IN) | GRIP RANGE (MM) | HOLE SIZE  | A NOM | B MAX | C MAX | D MAX | STANDARD E MAX | CLEARANCE E MAX | F MIN |
|------------------------|------------|-----------|-----------------|-----------------|------------|-------|-------|-------|-------|----------------|-----------------|-------|
| <b>Protruding Head</b> |            |           |                 |                 |            |       |       |       |       |                |                 |       |
| 10<br>(5/16")          | MBP-R10-3  | -         | .150-.250       | 3.8-6.4         | .3275-.340 | .316  | .655  | .152  | .620  | 1.104          | -               | 1.379 |
|                        | MBP-R10-4  | -         | .200-.300       | 5.1-7.6         | .3275-.340 | .316  | .655  | .152  | .670  | 1.154          | -               | 1.379 |
|                        | MBP-R10-5  | -         | .250-.350       | 6.4-8.9         | .3275-.340 | .316  | .655  | .152  | .720  | 1.204          | -               | 1.379 |
|                        | MBP-R10-6  | -         | .300-.400       | 7.6-10.2        | .3275-.340 | .316  | .655  | .152  | .770  | 1.254          | -               | 1.379 |
|                        | MBP-R10-7  | -         | .350-.450       | 8.9-11.4        | .3275-.340 | .316  | .655  | .152  | .820  | 1.304          | -               | 1.379 |
|                        | MBP-R10-8  | -         | .400-.500       | 10.2-12.7       | .3275-.340 | .316  | .655  | .152  | .870  | 1.354          | -               | 1.379 |
|                        | MBP-R10-9  | -         | .450-.550       | 11.4-14.0       | .3275-.340 | .316  | .655  | .152  | .920  | 1.404          | -               | 1.379 |
|                        | MBP-R10-10 | -         | .500-.600       | 12.7-15.2       | .3275-.340 | .316  | .655  | .152  | .970  | 1.454          | -               | 1.379 |

| DIA                         | STANDARD   | CLEARANCE    | GRIP RANGE (IN)                    | GRIP RANGE (MM) | HOLE SIZE  | A NOM     | B MAX | C MAX | D MAX | STANDARD E MAX | CLEARANCE E MAX | F MIN | G (REF) |       |
|-----------------------------|------------|--------------|------------------------------------|-----------------|------------|-----------|-------|-------|-------|----------------|-----------------|-------|---------|-------|
| <b>Oval Head Dimensions</b> |            |              |                                    |                 |            |           |       |       |       |                |                 |       |         |       |
| 8<br>(1/4")                 | MBV-R8-M4  | -            | .150-.229                          | 3.8-5.8         | .261-.272  | .253      | .410  | .130  | .528  | .864           | -               | 1.199 | 0.030   |       |
|                             | MBV-R8-M5  | -            | .189-.268                          | 4.8-6.8         | .261-.272  | .253      | .410  | .130  | .567  | .939           | -               | 1.160 | 0.030   |       |
|                             | MBV-R8-M6  | -            | .229-.308                          | 5.8-7.8         | .261-.272  | .253      | .410  | .130  | .607  | 1.019          | -               | 1.120 | 0.030   |       |
|                             | MBV-R8-M7  | -            | .269-.348                          | 6.8-8.8         | .261-.272  | .253      | .410  | 1.130 | .647  | .992           | -               | 1.186 | 0.030   |       |
|                             | -          | MBCV-R8-M7.5 |                                    | .290-.370       | 7.4-9.4    | .261-.272 | .253  | .410  | .130  | .667           | -               | 0.801 | 1.166   | 0.030 |
|                             | MBV-R8-M9  | -            | .346-.425                          | 8.8-10.8        | .261-.272  | .253      | .410  | .130  | .725  | 1.065          | -               | 1.192 | 0.030   |       |
|                             | MBV-R8-M10 | -            | .387-.466                          | 9.8-11.8        | .261-.272  | .253      | .410  | .130  | .765  | 1.105          | -               | 1.192 | 0.030   |       |
|                             | MBV-R8-M13 | -            | .504-.583                          | 12.8-14.8       | .261-.272  | .253      | .410  | .130  | .883  | 1.223          | -               | 1.192 | 0.030   |       |
|                             | MBV-R8-M19 | MBCV-R8-M19  | .741-.820 /<br>.740-.818<br>(MBCV) | 18.8-20.8       | .261-.272  | .253      | .410  | .130  | 1.120 | 1.460          | 1.250           | 1.192 | 0.030   |       |
| 10<br>(5/16")               | MBV-R10-5  | -            | .250-.350                          | 6.4-8.9         | .3275-.340 | .316      | .460  | .160  | .770  | 1.254          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-6  | -            | .300-.400                          | 7.6-10.2        | .3275-.340 | .316      | .460  | .160  | .820  | 1.304          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-7  | -            | .350-.450                          | 8.9-11.4        | .3275-.340 | .316      | .460  | .160  | .870  | 1.354          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-8  | -            | .400-.500                          | 10.2-12.7       | .3275-.340 | .316      | .460  | .160  | .920  | 1.404          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-9  | -            | .450-.550                          | 11.4-14.0       | .3275-.340 | .316      | .460  | .160  | .970  | 1.454          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-10 | -            | .500-.600                          | 12.7-15.2       | .3275-.340 | .316      | .460  | .160  | 1.020 | 1.504          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-11 | -            | .550-.650                          | 14.0-16.5       | .3275-.340 | .316      | .460  | .160  | 1.070 | 1.554          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-12 | -            | .600-.700                          | 15.2-17.8       | .3275-.340 | .316      | .460  | .160  | 1.120 | 1.604          | -               | 1.334 | 0.047   |       |
|                             | MBV-R10-13 | -            | .650-.750                          | 16.5-19.1       | .3275-.340 | .316      | .460  | .160  | 1.170 | 1.654          | -               | 1.334 | 0.047   |       |

## Blind Fastener Values - lbf (KN)

| DIA.          | PART NO. | GRIP           | SHEAR |      | TENSILE |      | PIN RETENTION |      |
|---------------|----------|----------------|-------|------|---------|------|---------------|------|
|               |          |                | MIN   | TYP  | MIN     | TYP  | MIN           | TYP  |
| 6<br>(3/16")  | MBP/MBV  | All grips      | 1950  | 2100 | 1050    | 1150 | 150           | 300  |
|               | MBC      | All grips      | 1650  | 1900 | 850     | 1025 | 150           | 300  |
| 8<br>(1/4")   | MBP/MBV  | -M2            | 2600  | N/A  | 1900    | N/A  | 300           | 550  |
|               |          | -M3            | 2700  | N/A  | 1900    | 2300 | 300           | 550  |
|               |          | -M4            | 2760  | N/A  | 1900    | 2300 | 300           | 550  |
|               |          | -M5            | 3000  | 3450 | 1900    | 2350 | 300           | 550  |
|               |          | -M6            | 3200  | 3450 | 1900    | 2350 | 300           | 550  |
|               |          | -M7 and Higher | 3500  | 3650 | 1900    | 2500 | 300           | 550  |
|               | MBC      | -M2            | 2300  | N/A  | 1600    | 1750 | 300           | 550  |
|               |          | -M3            | 2400  | N/A  | 1600    | 1750 | 300           | 550  |
|               |          | -M4            | 2500  | N/A  | 1600    | 1800 | 300           | 550  |
|               |          | -M5            | 3000  | 3200 | 1600    | 1825 | 300           | 550  |
|               |          | -M6            | 3000  | 3450 | 1600    | 1850 | 300           | 550  |
|               |          | -M7 and Higher | 3000  | 3450 | 1600    | 1950 | 300           | 550  |
| 10<br>(5/16") | MBP/MBV  | All grips      | 5000  | 5500 | 2960    | 3850 | 470           | 1200 |

## Ordering Information

Follow the form below to construct a part number for ordering Huck Magna-Bulb blind fasteners. Refer to the data and dimensions chart for grip numbers.

### Standard Version

MB (HEAD STYLE) - (MATERIAL) (DIAMETER) - (GRIP NUMBER)

**Example:** MBP-R6-M4 is a Protruding Head Magna-Bulb, Steel, 3/16" Diameter, M4 Grip.

### Clearance Version

MBC (HEAD STYLE) - (MATERIAL) (DIAMETER) - (GRIP NUMBER)

**Example:** MBCP-R8-M3 is a Protruding Head Clearance Magna-Bulb, Steel, 1/4" Diameter, M3 Grip.

| HEAD STYLE      | PREFIX |
|-----------------|--------|
| Protruding Head | P      |
| Oval Head       | V      |

| MATERIAL | CODE |
|----------|------|
| Steel    | R    |

| DIA.  | CODE |
|-------|------|
| 3/16" | 6    |
| 1/4"  | 8    |
| 5/16" | 10   |

### Materials and Finishes

| MATERIAL | SLEEVE           | PIN                 | SLEEVE FINISH                    | PIN FINISH                 |
|----------|------------------|---------------------|----------------------------------|----------------------------|
| Steel    | Low Carbon Steel | Medium Carbon Steel | Zinc Plate / Chromate / Gold Dye | Zinc Plated Clear Chromate |



# Installation Tooling

## Nose Assembly

| SIZE         | BATTERY    | PNEUDRAULIC |           | HYDRAULIC |         |
|--------------|------------|-------------|-----------|-----------|---------|
|              | TOOL MODEL |             |           |           |         |
|              | BV4500-118 | 256         | 2024*     | 2480      | 2581    |
| 3/16"        | 99-3303    | 99-3327     | 99-3303   | 99-3303   | 99-3327 |
| 3/16" & 1/4" | 99-3487**  | -           | 99-3487** | -         | -       |
| 1/4"         | 99-3305    | 99-3328     | 99-3305   | 99-3305   | 99-3328 |
| 5/16"        | -          | 99-3307     | -         | -         | 99-3307 |

## Tooling Weight and Dimensions

| MODEL      | TYPE        | WEIGHT   | LENGTH | HEIGHT | WIDTH |
|------------|-------------|----------|--------|--------|-------|
| BV4500-118 | Battery     | 5 lbs    | 9.06"  | 9.42"  | 3.15" |
| 256        | Pneudraulic | 11.1 lbs | 7.9"   | 14.9"  | 6.3"  |
| 2024*      | Pneudraulic | 5.75 lbs | 8.9"   | 12.6"  | 4.4"  |
| 2480       | Hydraulic   | 2.2 lbs  | 8.2"   | 6.6"   | 1.9"  |
| 2581       | Hydraulic   | 5.5 lbs  | 8.4"   | 7.1"   | 2.1"  |

\* Recommended

\*\* Not recommended for high volume production.





**HOWMET  
AEROSPACE**

# Howmet Fastening Systems

## Industrial Division Brands



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