



# Magna-Bulb<sup>®</sup>

## Unique Bulbing Fastener with Large Blind-Side Surface

High Pull-Out Resistance

Mechanical, Solid-Circle Lock

Design for High Strength

Broad Bearing Surface





# Huck Magna-Bulb®

## A Unique Bulbing Fastener for Superior Blind-Side Strength

The Huck® Magna-Bulb® was designed to offer high strength and vibration-resistant performance in a wide variety of materials, such as metal, plastic, fiberglass and composite fabrication.

This unique, clamp-type fastener was engineered specifically for blind side sheets, featuring a broader bearing surface. Its bulbing action during installation helps spread the load over a wider area, ultimately creating a stronger, longer-lasting connection. An internal mechanical solid-circle lock design adds pin retention strength while ensuring the highest level of vibration resistance. And the wide bulb on the blind side eliminates pull-through when used in thin materials.

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

**Materials:** Steel

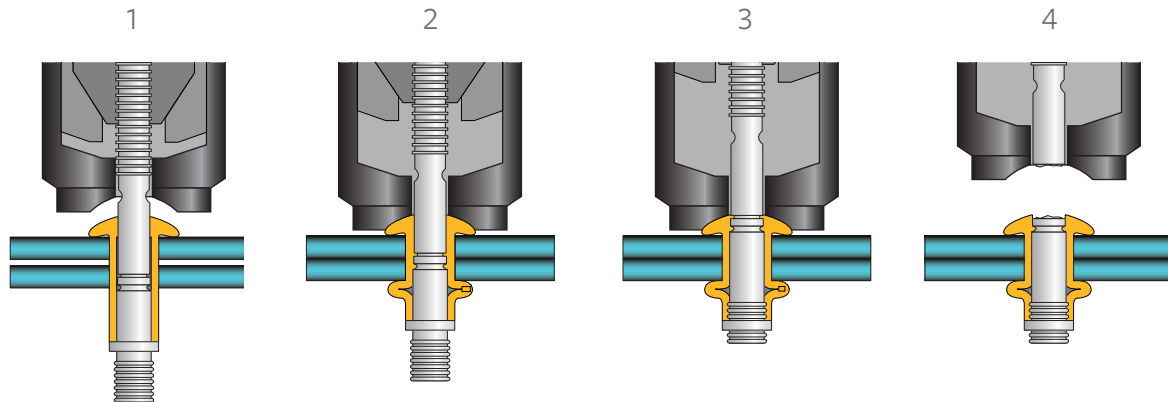
**Headstyles:** Protruding, 100° Oval Countersunk



## Magna-Bulb Benefits

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

# Installation Sequence



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

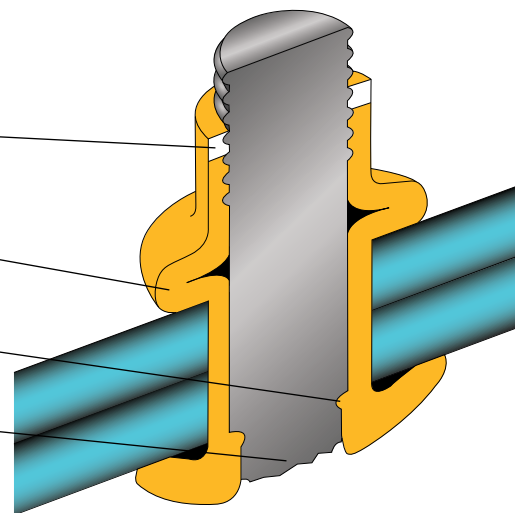
2  
Press the trigger to initiate pulling action. As the tool pulls on the pintail, the pin (mandrel) expands the sleeve and begins drawing the work pieces together.

3  
Continued pulling on the pintail expands the bulb to maximum allowable diameter. The shear ring then breaks and catches on the annular grooves as the pin continues to draw down inside the sleeve.

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.

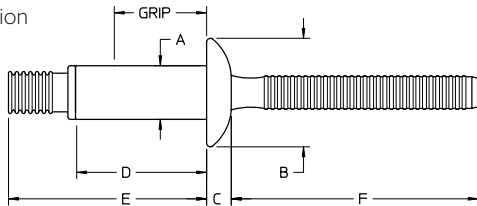
## Secure, Fast Installation

1. A unique shear ring design promotes bulb formation and grip adjustment for flush break throughout the grip range.
2. The bulb provides the fastener with a broader surface area, ensuring permanent clamp.
3. The unique solid-circle lock design ensures maximum strength and resistance to vibration.
4. The Magna-Bulb breaks flush throughout the entire grip range, eliminating cosmetic finish work and ensuring secure installation with only a visual inspection required.

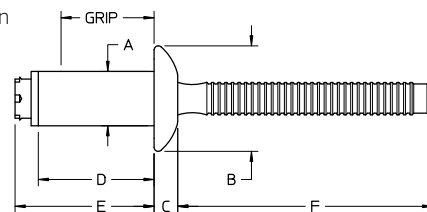


# Data and Dimensions

Standard Version



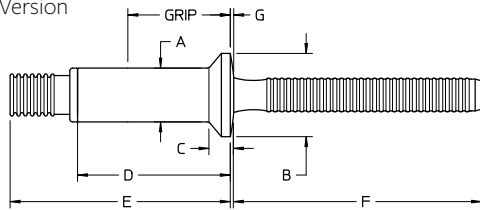
Clearance Version



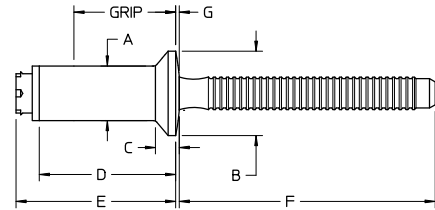
## Protruding Head Dimensions

| 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             |
|------------|------------|-------------|-----------------------------|-----------------|-------------|-----------|-------|-------|-------|----------------|-----------------|-------------------|
| 3/16"      | MBP-R6-M2  | MBCP-R6-M2  | .075-.110                   | 1.9-2.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.325 | 0.588          | 0.403           | 1.084/1.079(MBCP) |
|            | MBP-R6-M3  | MBCP-R6-M3  | .087-.150                   | 2.2-3.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.365 | 0.668          | 0.481           | 1.044/1.039(MBCP) |
|            | MBP-R6-M4  | MBCP-R6-M4  | .126-.189                   | 3.2-4.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.404 | 0.691          | 0.505           | 1.060/1.055(MBCP) |
|            | MBP-R6-M5  | MBCP-R6-M5  | .165-.228                   | 4.2-5.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.443 | 0.730          | 0.544           | 1.060/1.055(MBCP) |
|            | MBP-R6-M6  | MBCP-R6-M6  | .205-.268                   | 5.2-6.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.483 | 0.770          | 0.584           | 1.060/1.055(MBCP) |
|            | MBP-R6-M7  | MBCP-R6-M7  | .244-.307                   | 6.2-7.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.522 | 0.809          | 0.623           | 1.060/1.055(MBCP) |
|            | MBP-R6-M8  | MBCP-R6-M8  | .283-.347                   | 7.2-8.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.562 | 0.849          | 0.663           | 1.060/1.055(MBCP) |
|            | MBP-R6-M9  | MBCP-R6-M9  | .323-.386                   | 8.2-9.8         | .191-.201   | 0.187     | 0.395 | 0.101 | 0.601 | 0.888          | 0.702           | 1.060/1.055(MBCP) |
|            | MBP-R6-M10 | MBCP-R6-M10 | .362-.425                   | 9.2-10.8        | .191-.201   | 0.187     | 0.395 | 0.101 | 0.640 | 0.927          | 0.741           | 1.060/1.055(MBCP) |
|            | MBP-R6-M11 | -           | .402-.465                   | 10.2-11.8       | .191-.201   | 0.187     | 0.395 | 0.101 | 0.680 | 0.967          | -               | 1.060             |
|            | MBP-R6-M12 | -           | .441-.504                   | 11.2-12.8       | .191-.201   | 0.187     | 0.395 | 0.101 | 0.719 | 1.006          | -               | 1.060             |
|            | MBP-R6-M13 | -           | .481-.544                   | 12.2-13.8       | .191-.201   | 0.187     | 0.395 | 0.101 | 0.759 | 1.046          | -               | 1.060             |
|            | MBP-R6-M14 | -           | .520-.583                   | 13.2-14.8       | .191-.201   | 0.187     | 0.395 | 0.101 | 0.798 | 1.085          | -               | 1.060             |
|            | 8 (1/4")   | MBP-R8-M2   | MBCP-R8-M2                  | .060-.138       | 1.5-3.5     | .261-.272 | 0.253 | 0.530 | 0.125 | 0.437          | 0.773           | 0.547             |
| MBP-R8-M3  |            | MBCP-R8-M3  | .110-.189                   | 2.8-4.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.488 | 0.860          | 0.649           | 1.147             |
| MBP-R8-M4  |            | MBCP-R8-M4  | .150-.229                   | 3.8-5.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.528 | 0.940          | 0.728           | 1.107             |
| MBP-R8-M5  |            | MBCP-R8-M5  | .189-.268                   | 4.8-6.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.567 | 0.912          | 0.701           | 1.174             |
| MBP-R8-M6  |            | MBCP-R8-M6  | .229-.308 / .229-.306(MBCP) | 5.8-7.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.607 | 0.947          | 0.737           | 1.179             |
| MBP-R8-M7  |            | MBCP-R8-M7  | .268-.346                   | 6.8-8.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.646 | 0.986          | 0.776           | 1.179             |
| MBP-R8-M8  |            | MBCP-R8-M8  | .308-.387                   | 7.8-9.8         | .261-.272   | 0.253     | 0.530 | 0.125 | 0.686 | 1.026          | 0.816           | 1.179             |
| MBP-R8-M9  |            | MBCP-R8-M9  | .346-.425                   | 8.8-10.8        | .261-.272   | 0.253     | 0.530 | 0.125 | 0.725 | 1.065          | 0.855           | 1.179             |
| MBP-R8-M10 |            | -           | .387-.466                   | 9.8-11.8        | .261-.272   | 0.253     | 0.530 | 0.125 | 0.765 | 1.105          | -               | 1.179             |
| MBP-R8-M11 |            | MBCP-R8-M11 | .425-.504                   | 10.8-12.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 0.804 | 1.144          | 0.934           | 1.179             |
| MBP-R8-M12 |            | -           | .466-.545                   | 11.8-13.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 0.844 | 1.184          | -               | 1.179             |
| MBP-R8-M13 |            | MBCP-R8-M13 | .504-.583                   | 12.8-14.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 0.883 | 1.223          | 1.013           | 1.179             |
| -          |            | MBCP-R8-M16 | .622-.701                   | 15.8-17.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.002 | -              | 1.132           | 1.178             |
| MBP-R8-M18 |            | -           | .701-.780                   | 17.8-19.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.079 | 1.419          | -               | 1.179             |
| MBP-R8-M19 |            | MBCP-R8-M19 | .741-.820 / .740-.819(MBCP) | 18.8-20.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.120 | 1.460          | 1.250           | 1.179             |
| -          |            | MBCP-R8-M25 | .976-1.055                  | 24.8-26.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.359 | -              | 1.489           | 1.176             |
| -          |            | MBCP-R8-M29 | 1.134-1.213                 | 28.8-30.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.512 | -              | 1.642           | 1.179             |
| -          |            | MBCP-R8-M31 | 1.212-1.291                 | 30.8-32.8       | .261-.272   | 0.253     | 0.530 | 0.125 | 1.592 | -              | 1.722           | 1.179             |
| MBP-R8-M32 | -          | 1.252-1.331 | 31.8-33.8                   | .261-.272       | 0.253       | 0.530     | 0.125 | 1.632 | 1.972 | -              | 1.179           |                   |
| 10 (5/16") | MBP-R10-3  | -           | .150-.250                   | 3.8-6.4         | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.620 | 1.104          | -               | 1.379             |
|            | MBP-R10-4  | -           | .200-.300                   | 5.1-7.6         | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.670 | 1.154          | -               | 1.379             |
|            | MBP-R10-5  | -           | .250-.350                   | 6.4-8.9         | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.720 | 1.204          | -               | 1.379             |
|            | MBP-R10-6  | -           | .300-.400                   | 7.6-10.2        | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.770 | 1.254          | -               | 1.379             |
|            | MBP-R10-7  | -           | .350-.450                   | 8.9-11.4        | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.820 | 1.304          | -               | 1.379             |
|            | MBP-R10-8  | -           | .400-.500                   | 10.2-12.7       | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.870 | 1.354          | -               | 1.379             |
|            | MBP-R10-9  | -           | .450-.550                   | 11.4-14.0       | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.920 | 1.404          | -               | 1.379             |
|            | MBP-R10-10 | -           | .500-.600                   | 12.7-15.2       | 0.3275-.340 | 0.316     | 0.655 | 0.152 | 0.970 | 1.454          | -               | 1.379             |

Standard Version



Clearance Version



### Oval Head 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 | G (REF) |       |
|---------------|------------|--------------|-----------------|-------------------------------|-------------|-----------|-------|-------|-------|----------------|-----------------|-------|---------|-------|
| 8<br>(1/4")   | MBV-R8-M4  | -            | .150-.229       | 3.8-5.8                       | .261-.272   | 0.253     | 0.410 | 0.130 | 0.528 | 0.864          | -               | 1.199 | 0.030   |       |
|               | MBV-R8-M5  | -            | .189-.268       | 4.8-6.8                       | .261-.272   | 0.253     | 0.410 | 0.130 | 0.567 | 0.939          | -               | 1.160 | 0.030   |       |
|               | MBV-R8-M6  | -            | .229-.308       | 5.8-7.8                       | .261-.272   | 0.253     | 0.410 | 0.130 | 0.607 | 1.019          | -               | 1.120 | 0.030   |       |
|               | MBV-R8-M7  | -            | .269-.348       | 6.8-8.8                       | .261-.272   | 0.253     | 0.410 | 1.130 | 0.647 | 0.992          | -               | 1.186 | 0.030   |       |
|               | -          | MBCV-R8-M7.5 | -               | .290-.370                     | 7.4-9.4     | .261-.272 | 0.253 | 0.410 | 0.130 | 0.667          | -               | 0.801 | 1.166   | 0.030 |
|               | MBV-R8-M9  | -            | .346-.425       | 8.8-10.8                      | .261-.272   | 0.253     | 0.410 | 0.130 | 0.725 | 1.065          | -               | 1.192 | 0.030   |       |
|               | MBV-R8-M10 | -            | .387-.466       | 9.8-11.8                      | .261-.272   | 0.253     | 0.410 | 0.130 | 0.765 | 1.105          | -               | 1.192 | 0.030   |       |
|               | MBV-R8-M13 | -            | .504-.583       | 12.8-14.8                     | .261-.272   | 0.253     | 0.410 | 0.130 | 0.883 | 1.223          | -               | 1.192 | 0.030   |       |
|               | MBV-R8-M19 | MBCV-R8-M19  | -               | .741-.820/<br>.740-.818(MBCV) | 18.8-20.8   | .261-.272 | 0.253 | 0.410 | 0.130 | 1.120          | 1.460           | 1.250 | 1.192   | 0.030 |
| 10<br>(5/16") | MBV-R10-5  | -            | .250-.350       | 6.4-8.9                       | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 0.770 | 1.254          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-6  | -            | .300-.400       | 7.6-10.2                      | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 0.820 | 1.304          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-7  | -            | .350-.450       | 8.9-11.4                      | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 0.870 | 1.354          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-8  | -            | .400-.500       | 10.2-12.7                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 0.920 | 1.404          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-9  | -            | .450-.550       | 11.4-14.0                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 0.970 | 1.454          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-10 | -            | .500-.600       | 12.7-15.2                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 1.020 | 1.504          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-11 | -            | .550-.650       | 14.0-16.5                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 1.070 | 1.554          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-12 | -            | .600-.700       | 15.2-17.8                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 1.120 | 1.604          | -               | 1.334 | 0.047   |       |
|               | MBV-R10-13 | -            | .650-.750       | 16.5-19.1                     | 0.3275-.340 | 0.316     | 0.460 | 0.160 | 1.170 | 1.654          | -               | 1.334 | 0.047   |       |



# Data and Dimensions

| Blind Fastener Values - lbf (KN) |         |                |       |      |         |      |               |      |
|----------------------------------|---------|----------------|-------|------|---------|------|---------------|------|
| DIAMETER                         |         |                | 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 |

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    |

| DIAMETER | 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 TOOLS | PNEUDRAULIC TOOLS |           | HYDRAULIC TOOLS |         |
|               | 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.



Model  
BV4500-118

Model  
2480

Model  
2024



**HOWMET  
AEROSPACE**

# Howmet Fastening Systems

## Industrial Division Brands



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