



**Posi-Hex™ Ceramic
Ball Plungers**

Features

- ▶ Vlier Posi-Hex installation
- ▶ Side-load tolerance
- ▶ Controlled end forces
- ▶ Impact resistance

Why are Ceramic Plungers Special?

Ceramic (alumina oxide) possesses unique properties for parts that need to remain durable under extreme conditions. Here's a look at alumina oxide (Al₂O₃) by the numbers:

2,977 | **2,072**
Melting point (°C) | Boiling point (°C)

2,000-4,000
Compressive strength (MPa)





300-600
Mechanical strength (Mpa)

15-19 | **3.95**
Hardness (Gpa) | Density (g/cm3)



Benefits

Vlier's new line of ceramic plungers will help engineers meet specific criteria for temperature tolerance, chemical resistance, longevity and more.

-  Cleanroom compatible
-  Corrosion resistant
-  Electrical insulator
-  Easily recyclable

Other benefits:

- ▶ Longer life than steel/other metals
- ▶ Non-magnetic
- ▶ Nearly frictionless
- ▶ Lower weight than steel
- ▶ Non-marking/marring
- ▶ High-temperature tolerance
- ▶ Enhanced thermal dissipation

Applications



Medical



Aerospace



Electric vehicles



Extreme environments



Marine



Oil and gas

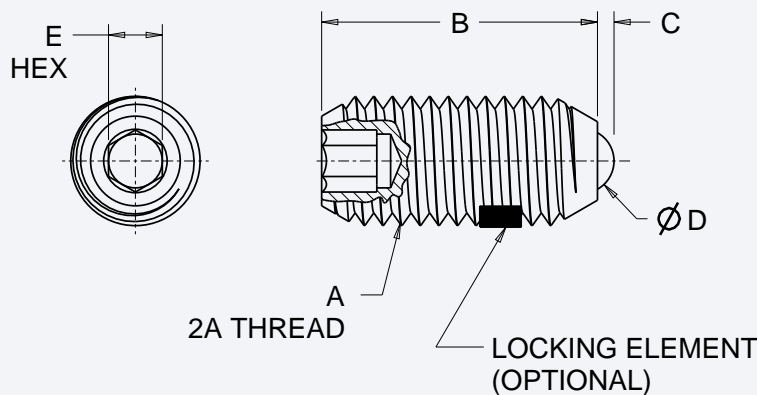
Ceramic Plungers

Ceramic ball plungers are self-contained ball and spring devices, frequently used in indexing, locating, or positioning in a variety of applications. The product design automates and simplifies the assembly process for manufacturers, while the unique ceramic makeup allows engineers to meet extreme tolerances.



Posi-Hex™ Ball Plungers - Stainless Steel w/Ceramic Ball

| Part No. | Part No. With Thread Lock | End Force, (Lbs.) | | Thread | (in.) | | | | |
|-----------|------------------------------|-------------------|-------|---------|-------|-------|-------|-------|---|
| | | Initial | Final | | A | B | C | D | E |
| SSPHCB48A | SSPHCB48AP | 0.5 | 1.0 | 6-40 | 0.350 | 0.023 | 0.078 | 0.05 | |
| SSPHCB50 | SSPHCB50P | 0.5 | 1.25 | 8-32 | 0.445 | 0.025 | 0.094 | 0.063 | |
| SSPHCB52 | SSPHCB52P | 1.5 | 3.0 | 10-32 | 0.570 | 0.025 | 0.094 | 0.079 | |
| SSPHCB54 | SSPHCB54P | 3.0 | 7.0 | 1/4-20 | 0.675 | 0.035 | 0.125 | 0.079 | |
| SSPHCB56 | SSPHCB56P | 4.0 | 9.0 | 5/16-18 | 0.720 | 0.04 | 0.156 | 0.095 | |
| SSPHCB58 | SSPHCB58P | 5.0 | 10.0 | 3/8-16 | 0.800 | 0.048 | 0.188 | 0.156 | |
| SSPHCB60 | SSPHCB60P | 6.0 | 12.0 | 1/2-13 | 1.050 | 0.72 | 0.281 | 0.219 | |
| SSPHCB62 | SSPHCB62P | 9.0 | 18.0 | 5/8-11 | 1.250 | 0.096 | 0.375 | 0.253 | |



Are Vlier's ceramic plungers the perfect solution for your application?
 Contact us to learn more.